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### Helmet mounting unit comprised of links

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#### Abstract

A link-based helmet mounting unit for attaching accessories onto a helmet is provided, the helmet mounting unit comprising a plurality of links connected to one another, to enable length adjustment, as well as versatility with respect to replacement, location and type of accessory adaptors that are to be carried by the link-based helmet mounting unit.

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## Background/Summary

### TECHNICAL FIELD

(1) The present disclosure relates to a helmet mounting unit configured for attaching accessories thereon, whereby the helmet mounting unit is comprised of links connected to one another.

### BACKGROUND OF THE DISCLOSURE

(2) Helmets include one or more mounting units onto which adaptors for carrying helmet accessories are attached. Sometimes after a period of usage, the adaptors or the mounting units are damaged and even break. In such case, the entire mounting unit needs to be replaced in order to replace the damaged or broken accessory adaptor.

(3) Replacing an entire helmet mounting unit due to a single broken accessory adaptor is time consuming as well as costly.

(4) In addition, helmet mounting units are typically of a certain predetermined length, which cannot be changed.

(5) Accordingly, there is a need for a helmet mounting unit that enables adjustment per helmet size as well as replacement of each adaptor separately instead of replacing the entire helmet mounting unit altogether.

### SUMMARY OF THE DISCLOSURE

(6) An aspect of an embodiment of the disclosure, relates to a helmet mounting unit that is comprised of several links easily connected to one another, and which may be easily detached from

one another to enable replacement of any damaged or broken link, when necessary. That is, a link-based helmet mounting unit is provided. Some of the links may comprise an accessory adaptor, while other links may not comprise any accessory adaptor and may simply be links configured to connect those links comprising accessory adaptors to the helmet along its external circumference. (7) In some embodiments, the links may be configured to have attached thereon interchangeable adaptors, such that the user may design the helmet mounting unit per their specific needs. For example, the user may change location of any accessory adaptors between the links of the helmet mounting unit, add more than one type of accessory adaptor along different locations of the link-based helmet mounting unit and replace a broken or damaged link with a new link.

(8) The link-based mounting unit may be attached onto the external circumference of the helmet from front to back, and/or from side to side. The front of the helmet being the side configured to be located above the face of the user, while the back of the helmet being the side of the helmet configured to be located at the back side of the user. The sides of the helmet being the right side and left side of the helmet, are configured to be located at the right and left sides of the user's face, respectively.

(9) According to some embodiments, the link-based helmet mounting unit may comprise at least one clip on each end of the helmet mounting unit, configured to attach the helmet mounting unit onto the edges of the helmet.

(10) In some embodiments, the link-based helmet mounting unit may comprise wires running through the plurality of links, which the helmet mounting unit is comprised of. The wires running through the links may allow tightening of the helmet mounting unit onto the helmet, as well as enable attachment of the 'Integrated Visual Augmentation System' (IVAS) by Microsoft, to the helmet mounting unit, and thereby to the helmet carrying the helmet mounting unit. In some embodiments, instead of attaching an WAS, the helmet mounting unit may be configured to attach other systems to the helmet via the wires.

(11) There is provided a link that is part of a plurality of links for forming a link-based helmet mounting unit, which is configured to carry accessories thereon. The link comprising: a link body; a first end comprising a rod; and a second end comprising at least one hook connected to the link body via an elongated arm, said elongated arm comprising a curved end. The at least one hook is configured to connect onto a rod of another link with the curved end hugging the rod, thereby enabling connection between the plurality of links to form the helmet mounting unit.

(12) Optionally, the at least one hook comprises two hooks positioned on each side of the second end.

(13) Optionally, each open end of each of the two hooks are positioned towards the same direction.

(14) Optionally, each open end of each of the two hooks are positioned towards opposite directions.

(15) Optionally, the at least one hook comprises a step along the elongated arm, the step configured to prevent easy disconnection of the rod from the at least one hook by partially blocking movement of the rod away from the curved end of the at least one hook.

(16) Optionally, the step is located substantially at the middle of the elongated arm.

(17) Optionally, the link further comprises an accessory adaptor integrated as part of the link, the accessory adaptor configured for attaching an accessory onto the link via the accessory adaptor.

(18) Optionally, the link comprises an opening within the link body, the opening configured to receive an independent accessory adaptor, said independent accessory adaptor configured for attaching an accessory onto the link via the accessory adaptor.

(19) Optionally, the independent accessory adaptor is an extractable accessory adaptor configured to be inserted into the opening and be extracted from the opening.

(20) Optionally, the extractable accessory adaptor comprises a locking mechanism, the locking mechanism comprising a protruding tooth located on each side of the extractable accessory adaptor, each of the protruding teeth configured to be pushed against a corresponding indent along either side of the link body, wherein, when the extractable accessory adaptor is pushed into the opening

within the link body, each protruding tooth is pushed against its corresponding indent to secure the extractable accessory adaptor into the link body.

(21) Optionally, each of the protruding teeth is connected to a squeezable wing, the two squeezable wings located on opposite sides of the accessory adaptor, wherein when the squeezable wings are squeezed towards the middle of the extractable accessory adaptor, each protruding tooth is pulled away from its corresponding indent to extract the extractable accessory adaptor from the link body.

(22) Optionally, the extractable accessory adaptor is replaceable with other extractable accessory adaptors.

(23) Optionally, the extractable accessory adaptor includes at least one of: a GoPro camera adaptor, a picatinny rail, an adaptor with holes for screws, an adaptor configured to attach an accessory via an elastic band connected thereon, or any combination thereof.

(24) Optionally, the link comprises an opening within the link body, the opening configured to receive an extractable cap configured to cover the opening.

(25) A link-based helmet mounting unit for attaching accessories onto a helmet is provided. The link-based helmet mounting unit comprises a plurality of links connected to one another, whereby the plurality of links comprise: a first link comprising: a first link body; a first end comprising a first clip configured to connect the first link to a first edge of the helmet; and a second end comprising at least one hook connected to the link body via an elongated arm, said elongated arm comprising a curved end; an end link comprising: an end link body; a first end comprising an end clip configured to connect the end link to a second edge of the helmet opposite the first edge; and a second end comprising a rod; a plurality of middle links, wherein each middle link comprises: a link body; a first end comprising a rod; and a second end comprising at least one hook connected to the link body via an elongated arm, said elongated arm comprising a curved end.

(26) In some embodiments, the first clip is connected to the first edge of the helmet and the at least one hook of the first link is connected onto the rod of the middle link. Optionally, the at least one hook of the middle link is connected onto a rod of another middle link via the curved end of the middle link hugging the rod of the other middle link, and so on until a middle link is connected to the end link via the curved end of the middle link hugging the rod of the end link and the end clip is connected to the second edge of the helmet, thereby connecting the plurality of links to one another to form the helmet mounting unit connected onto a circumference of the helmet.

(27) Optionally, the at least one hook of the first and middle links comprises two hooks positioned on each side of the second end of the first and middle links.

(28) Optionally, each open end of each of the two hooks are positioned towards the same direction.

(29) Optionally, each open end of each of the two hooks are positioned towards opposite directions.

(30) Optionally, the at least one hook of the first and middle links comprises a step along the elongated arm, the step configured to prevent easy disconnection of the rod of a connected link from the at least one hook by partially blocking movement of the rod away from the curved end of the at least one hook.

(31) Optionally, the step is located substantially at the middle of the elongated arm.

(32) Optionally, the first and/or middle link further comprise an accessory adaptor integrated as part of the first and/or middle link, the accessory adaptor configured for attaching an accessory onto the first and/or middle link via the accessory adaptor.

(33) Optionally, the first and/or middle link comprises an opening within the first and/or middle link body, the opening configured to receive an independent accessory adaptor, said independent accessory adaptor configured for attaching an accessory onto the first and/or middle link via the accessory adaptor.

(34) Optionally, the independent accessory adaptor is an extractable accessory adaptor configured to be inserted into the opening of the first and/or middle link and be extracted from the opening.

(35) Optionally, the extractable accessory adaptor comprises a locking mechanism, the locking mechanism comprising a protruding tooth located on each side of the extractable accessory adaptor,

each of the protruding teeth configured to be pushed against a corresponding indent along either side of the link body of the first and/or middle link, wherein, when the extractable accessory adaptor is pushed into the opening within the first and/or middle link body, each protruding tooth is pushed against its corresponding indent to secure the extractable accessory adaptor into the link body of the first and/or middle link.

(36) Optionally, each of the protruding teeth is connected to a squeezable wing, the two squeezable wings located on opposite sides of the accessory adaptor, wherein when the squeezable wings are squeezed towards the middle of the extractable accessory adaptor, each protruding tooth is pulled away from its corresponding indent to extract the extractable accessory adaptor from the link body of the first and/or middle link.

(37) Optionally, the extractable accessory adaptor is replaceable with other extractable accessory adaptors.

(38) Optionally, the extractable accessory adaptor includes at least one of: a GoPro camera, a picatinny rail, an adaptor with holes for screws, an adaptor configured to attach an accessory via an elastic band connected thereon, or any combination thereof.

(39) Optionally, the first and/or middle link comprises an opening within the link body, the opening configured to receive an extractable cover configured to cover the opening.

(40) Optionally, the end link further comprises a tightening mechanism configured to pull the connected links towards the end link and pull the rod of the end link body towards the end clip to thereby tighten the plurality of links onto the external circumference of the helmet between the first and second edges of the helmet.

(41) Optionally, the tightening mechanism comprises a rotatable knob or dial, wherein when the dial is turned in a first direction, the end link body is pulled towards the end clip, which in turn pulls the connected middle and first link towards the end clip, thereby tightening the plurality of links onto the external circumference of the helmet between the first and second edges of the helmet, and wherein the dial is turned in a second opposite direction, the end link body is pushed away from the end clip to thereby untighten the plurality of links and distant them from the external circumference of the helmet.

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## Description

### BRIEF DESCRIPTION OF THE DRAWINGS

(1) The present disclosure will be understood and better appreciated from the following detailed description taken in conjunction with the drawings. Identical structures, elements or parts, which appear in more than one figure, are generally labeled with the same or similar number in all the figures in which they appear, wherein:

(2) FIG. 1 is a schematic illustration of a side view of a helmet mounting unit comprised of a plurality of links connected to one another, according to an embodiment of the disclosure;

(3) FIG. 2 is a schematic illustration of a perspective side view of the helmet mounting unit, according to an embodiment of the disclosure;

(4) FIG. 3A is a schematic illustration of an exploded view of the helmet mounting unit, according to an embodiment of the disclosure;

(5) FIG. 3B is a schematic illustration of a close-up perspective top view of a link of the helmet mounting unit, according to an embodiment of the disclosure;

(6) FIGS. 3C-3D are schematic illustrations of a perspective side view, and a top view of a link of the helmet mounting unit, respectively, according to an embodiment of the disclosure;

(7) FIG. 3E are schematic illustrations of different views of a link of the helmet mounting unit, according to an embodiment of the disclosure;

(8) FIG. 4 is a schematic illustration of a perspective side view of the link with a wire carrier,

according to an embodiment of the disclosure;

(9) FIG. 5 is a schematic illustration of the hole in the link into which the wire carrier is inserted, according to an embodiment of the disclosure;

(10) FIG. 6 is a schematic illustration of a wire carrier clip for the release of the wire carrier from the link, according to an embodiment of the disclosure;

(11) FIG. 7 is a schematic illustration of a side view of a helmet mounting unit comprising wires, a wire dial and a front clip for attaching an accessory at the front side of the helmet, according to an embodiment of the disclosure;

(12) FIG. 8 is a schematic illustration of a perspective top view of a helmet mounting unit comprising wires, a wire dial and a front clip for attaching an accessory at the front side of the helmet, according to an embodiment of the disclosure;

(13) FIG. 9 is a schematic illustration of a perspective side view of a helmet mounting unit comprising wires, a wire dial and a front clip for attaching an accessory at the front side of the helmet, according to an embodiment of the disclosure;

(14) FIG. 10 is a schematic illustration of a top view of links of a helmet mounting unit comprising wires passing therethrough, and a wire carrier disconnected from the links, according to an embodiment of the disclosure;

(15) FIG. 11A is a schematic illustration of an exploded view of a helmet mounting unit, according to an embodiment of the disclosure;

(16) FIG. 11B is a schematic illustration of a close-up side view of a front link of the helmet mounting unit, according to an embodiment of the disclosure;

(17) FIGS. 11C-11D are schematic illustrations of a perspective top view, and a rear view of a front link of the helmet mounting unit, respectively, according to an embodiment of the disclosure;

(18) FIG. 12A is a schematic illustration of an exploded view of a helmet mounting unit, according to an embodiment of the disclosure;

(19) FIG. 12B is a schematic illustration of a close-up side view of a back link of the helmet mounting unit comprising a wire dial, according to an embodiment of the disclosure;

(20) FIGS. 12C-12D are schematic illustrations of a side view, and a front view of a back link of the helmet mounting unit without the wire dial, respectively, according to an embodiment of the disclosure;

(21) FIG. 12E is a schematic illustration of a perspective side view of a back link of the helmet mounting unit comprising a wire dial, according to an embodiment of the disclosure;

(22) FIG. 13 is a schematic illustration of a rear view of a back link of the helmet mounting unit, according to an embodiment of the disclosure;

(23) FIG. 14 is a schematic illustration of a side view of a helmet mounting unit tightened onto a helmet, and comprising wires passing through the links, a dial wire and connectors holding the IVAS Microsoft system, according to an embodiment of the disclosure;

(24) FIG. 15 is a schematic illustration of a rear view of a helmet mounting unit tightened onto a helmet, and comprising wires passing through the links, a dial wire, according to an embodiment of the disclosure;

(25) FIG. 16 is a schematic illustration of a side view of front connectors of a helmet mounting unit holding the IVAS Microsoft system, according to an embodiment of the disclosure;

(26) FIG. 17A is a schematic illustration of a perspective side view of a helmet mounting unit tightened onto a helmet comprising a go-pro adaptor on one link, according to an embodiment of the disclosure;

(27) FIG. 17B is a schematic illustration of a close-up perspective side view of a go-pro link of the helmet mounting unit, according to an embodiment of the disclosure;

(28) FIGS. 17C-17D are schematic illustrations of a perspective top view, and a top view of a go-pro link of the helmet mounting unit, respectively, according to an embodiment of the disclosure;

(29) FIG. 18A is a schematic illustration of a perspective front view of a helmet mounting unit

comprising wires and no screws, according to an embodiment of the disclosure;

(30) FIG. **18B** is a schematic illustration of a side view of a back link of a helmet mounting unit comprising a wire dial and no screws, according to an embodiment of the disclosure;

(31) FIGS. **18C-18D** are schematic illustrations of a perspective side view, and a front view of a helmet mounting unit comprising a wire dial and no screws, respectively, according to an embodiment of the disclosure;

(32) FIG. **19A** is a schematic illustration of a perspective front view of a helmet mounting unit comprising wires and no screws, according to an embodiment of the disclosure;

(33) FIG. **19B** is a schematic illustration of a perspective front view of a second front link of a helmet mounting unit comprising a wire dial and no screws, according to an embodiment of the disclosure;

(34) FIGS. **19C-19D** are schematic illustrations of a side view, and a front view of a second front link of a helmet mounting unit comprising a wire dial and no screws, respectively, according to an embodiment of the disclosure;

(35) FIG. **20A** is a schematic illustration of a perspective front view of a helmet mounting unit comprising wires and no screws, according to an embodiment of the disclosure;

(36) FIG. **20B** is a schematic illustration of a perspective side view of a first front link of a helmet mounting unit comprising a wire dial and no screws, according to an embodiment of the disclosure;

(37) FIGS. **20C-20D** are schematic illustrations of a side view, and a front view of a first front link of a helmet mounting unit comprising a wire dial and no screws, respectively, according to an embodiment of the disclosure;

(38) FIG. **21** is a schematic illustration of a helmet mounting unit for holding an AR system with a wire running through wire carriers, according to an embodiment of the disclosure;

(39) FIGS. **22A-22D** are schematic illustrations of a first link of a plurality of links from which a helmet mounting unit is comprised of, according to embodiments of the present disclosure;

(40) FIGS. **23A-23B** are schematic illustrations of a first link connected to other links and assembled onto a helmet, according to embodiments of the present disclosure;

(41) FIGS. **24A-24F** are schematic illustrations of a first link of a plurality of links from which a helmet mounting unit is comprised of, according to other embodiments of the present disclosure;

(42) FIGS. **25A-25F** are schematic illustrations of a first link of a plurality of links from which a helmet mounting unit is comprised of, according to another embodiment of the present disclosure;

(43) FIGS. **26A-26C** are schematic illustrations of the first link of FIGS. **25A-25F** as it is assembled as part of the link-based helmet mounting unit, according to another embodiment of the present disclosure;

(44) FIGS. **27A-27E** are schematic illustrations of a middle link of a plurality of links from which a helmet mounting unit is comprised of, according to embodiments of the present disclosure;

(45) FIGS. **28A-28B** are schematic illustrations of the middle link of FIGS. **27A-27E** as it is assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(46) FIGS. **29A-29D** are schematic illustrations another middle link according to embodiments of the present disclosure;

(47) FIGS. **30A-30B** are schematic illustrations of the middle link of FIGS. **29A-29D** as it is assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(48) FIGS. **31A-31E** are schematic illustrations of a middle link comprising an integral GoPro adaptor, according to embodiments of the present disclosure;

(49) FIGS. **32A-32B** are schematic illustrations of the middle link of FIGS. **31A-31E** as it is assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(50) FIGS. **33A-33E** are schematic illustrations of a middle link comprising an integral Picatinny

adaptor, according to embodiments of the present disclosure;

(51) FIGS. **34A-34B** are schematic illustrations of the middle link of FIGS. **33A-33E** as it is assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(52) FIGS. **35A-35E** are schematic illustrations of a middle link comprising an integral Dove-tail type adaptor, according to embodiments of the present disclosure;

(53) FIGS. **36A-36B** are schematic illustrations of the middle link of FIGS. **35A-35E** as it is assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(54) FIGS. **37A-37E** are schematic illustrations of an extractable cap, according to embodiments of the present disclosure;

(55) FIGS. **38A-38C** are schematic illustrations of the link with the extractable cap of FIGS. **37A-37E** as it is assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(56) FIGS. **39A-39E** are schematic illustrations of a cap, according to embodiments of the present disclosure;

(57) FIGS. **40A-40C** are schematic illustrations of the link with the cap of FIGS. **39A-39E** as it is assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(58) FIGS. **41-45** schematically illustrate different examples for caps and/or extractable caps integrally incorporating different types of accessory adaptors, according to embodiments of the present disclosure;

(59) FIGS. **46A-46B** schematically illustrate a helmet mounting unit comprising the different caps of FIGS. **41-45** as they are assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(60) FIG. **47** illustrates the prior-art NVG adaptor comprising a rotatable arm, which is connected, e.g., screwed into a dedicated helmet mounting unit adaptor;

(61) FIGS. **47A-47F** are schematic illustrations of the NVG adaptor, illustrated in FIGS. **26A-26C**, according to embodiments of the present disclosure;

(62) FIGS. **48A-48F** are schematic illustrations of an end link comprising a tightening mechanism configured to tighten the entire link-based helmet mounting unit onto the external circumference of a helmet, according to embodiments of the present disclosure;

(63) FIGS. **49A-49B** are schematic illustrations of the end link of FIGS. **48A-48F** as it is assembled as part of the link-based helmet mounting unit, according to embodiments of the present disclosure;

(64) FIGS. **50A-50D**, **51A-51D** and **52A-52C** schematically illustrate an end clip comprising two parts connected together via an elongated screw, according to embodiments of the present disclosure;

(65) FIGS. **53A-53J** schematically illustrate a 'turn-and-pull' connection between two adjacent links, according to embodiments of the present disclosure;

(66) FIGS. **54A-54F** schematically illustrate a 'push-and-pull' connection between two adjacent links, according to embodiments of the present disclosure;

(67) FIGS. **55A-55D** illustrate another example of two caps, each incorporating an adaptor configured for carrying an accessory, according to embodiments of the present disclosure;

(68) FIGS. **56A-56E** schematically illustrate a middle link that has smaller dimensions compared to other links, according to embodiments of the present disclosure; and

(69) FIGS. **57A-57B** illustrate another mechanism enabling extraction of a cap from the space created by the elongated arms of the link, according to embodiments of the disclosure.

#### DETAILED DESCRIPTION

(70) The present disclosure provides a link-based helmet mounting unit comprising a plurality of detachable links connected to one another. The link-based helmet mounting unit of the present



disclosure offers the user the ability to adjust the length of the link-based helmet mounting unit by adding or removing links. In addition, the link-based helmet mounting unit of the present disclosure enables a user to replace only a part of it, instead of replacing the entire helmet mounting unit, in case a section of the helmet mounting unit has been damaged or broken. Some of the detachable links may be connected to either of the edges of the helmet onto which the mounting unit is to be placed and tightened against. Thus, the 'first' and 'end' links, i.e., the links located at each of the ends of the link-based helmet mounting unit, should have a shape configured to fit onto each of the helmet edges, and possibly to comprise connectors and/or clips for connecting and tightening the helmet mounting unit onto the helmet. Other detachable links may be the links which connect the two 'end' links therethrough and form the main body of the helmet mounting unit. Any of the links may either comprise an integral accessory adaptor or may be configured to have attached thereon an accessory adaptor, which may be interchangeable.

(71) In some embodiments, the front link may comprise a first front link and a second front link, configured to be connected to one another, while the first front link may be connected to the front edge of the helmet, and the second front link may be connected to the first front link and may comprise connectors for holding various systems, such as viewing systems, e.g., Microsoft's WAS, or any other required accessory.

(72) FIG. 1 is a schematic illustration of a side view of a helmet mounting unit **100** comprised of a plurality of links connected to one another, according to an embodiment of the disclosure. Some of the links are mere connecting links **110**, which have the same shape and which reappear along the helmet mounting unit **100**, whereas some of the links have a unique shape configured to connect them onto the edge of a helmet, e.g., links **120**, **130** and **140**.

(73) FIG. 2 is a schematic illustration of a perspective top view of the helmet mounting unit **100**, according to an embodiment of the disclosure.

(74) FIG. 3A is a schematic illustration of an exploded view of the helmet mounting unit **100**, according to an embodiment of the disclosure, illustrating each of the plurality of links disconnected from any adjacent link.

(75) FIG. 3B is a schematic illustration of a close-up perspective top view of a link of the helmet mounting unit, according to an embodiment of the disclosure. According to some embodiments, link **110**, which is a connecting link reappearing between the 'end' links, e.g., front and back links of helmet mounting unit **100**, may comprise a rod **302** located at one end of link **110** and at least one hook **304**, which may be located at an opposite end of link **110**. When connecting links **110** to one another, the at least one hook **304** of one link **110** may be pushed onto a corresponding rod **302** of an adjacent link **110**. This hook-and-rod configuration may be easy to assemble as well as disassemble, to thus enable a user to easily disconnect a broken or damaged link, e.g., link **110** from the chain of links creating the helmet mounting unit **100**, replace the damaged/broken link with a new one and quickly connect the new link to the other links to reassemble helmet mounting unit **100**. A user may push the at least one hook **304** onto rod **302** when assembling a link as part of helmet mounting unit **100**, and may pull the at least one hook **304** off rod **302** when disassembling a link from helmet mounting unit **100**.

(76) In some embodiments, link **110** may further comprise a hole **306** into which a wire carrier may be inserted, as will be explained below.

(77) In some embodiments, link **110** may comprise at least one tunnel-like structures **308**, typically located at the top side of link **110**, through which wires may be passed. These wires will be discussed below, as they provide tightening of helmet mounting unit **100** onto a helmet, as well as enable helmet mounting unit **100** to carry accessories, typically at the front side of helmet mounting unit **100**, though the back side is also optional for carrying such.

(78) FIGS. 3C-3D are schematic illustrations of a perspective side view, and a top view of a link of the helmet mounting unit, respectively, according to an embodiment of the disclosure, and FIG. 3E are schematic illustrations of different views of a link of the helmet mounting unit, according to an

embodiment of the disclosure.

(79) FIG. 4 is a schematic illustration of a perspective side view of the link **110** with a wire carrier **410**, according to an embodiment of the disclosure, and FIG. 5 is a schematic illustration of the hole in the link into which the wire carrier is inserted, according to an embodiment of the disclosure. In some embodiments, in case a user carries goggles or any other accessory that contains wires, e.g., electrical wires, the user may add to link **110** wire carriers **410**. A user may add one of several wire carriers **410** into a corresponding one of several links **110**, such to have wires extending from an accessory to pass through wire carriers **410**, e.g., through space **420** created by the shape of wire carrier **410**. Passing wires through at least one wire carrier **410** may assist the user in positioning the wires along the mounting unit **100**, such to avoid interference of the wire with the user's line of sight and/or avoid tangling of the wire around the user's face, body, helmet, etc.

(80) Wire carrier **410** may be inserted into a designated hole **510**. Specifically, one extending section of wire carrier **410** may be inserted into hole **510** to connect wire carrier **410** to link **110**.

(81) FIG. 6 is a schematic illustration of a wire carrier clip for the release of the wire carrier from the link, according to an embodiment of the disclosure. In some embodiments, wire carrier **410** may comprise an extending end **430** that may be inserted into hole **510**. The extending end **430** may comprise a section **520** which may operate as a clip. Once inserted into hole **510**, clip **520**, which is typically made of a flexible material, may be pushed into hole **530** and due to its flexibility, clip **520** may pop out of hole **530**. In some cases, the extending end **430** may comprise a sort of clip **520**, which may be pressed in case wire carrier **410** is to be removed from link **110**. In such case, once clip **520** is pressed into hole **530**, wire carrier **410** may be pulled out of hole **510** and thus be detached from link **110**. In order to attach or reattach wire carrier **410** to link **110**, clip **520** may be pushed into hole **510** until clip **520** is pushed into and out of hole **530** to lock wire carrier **410** in place within link **110**.

(82) FIG. 7 is a schematic illustration of a side view of a helmet mounting unit comprising wires, a wire dial and a front clip for attaching an accessory at the front side of the helmet and a back clip comprising at least one screw, according to an embodiment of the disclosure. In some embodiments, another helmet mounting unit **700** may comprise wires **710** passing through the links that mounting unit **700** is comprised of, e.g., links **110**. Wires **710** may pass through the links to enable attachment of an accessory at the front end of mounting unit **700**, e.g., the Microsoft IVAS. That is, IVAS may be connected to mounting unit **700** via wires **710**.

(83) In some embodiments, wires **710** may be connected on the front end to connector **718**, which may be attached to the WAS or any other accessory. Mounting unit **700** may comprise a front clip **716**, which may be positioned onto the front edge of the helmet to which mounting unit **700** is attached.

(84) In some embodiments, mounting unit **700** may further comprise on its rear end a wire dial **712**, which may be configured to turn and thereby pull wires **710** around dial **712** and towards the rear or back end of mounting unit **700**, thereby to tighten the WAS or other accessory to mounting unit **700**, as well as tighten mounting unit **700** onto a helmet.

(85) In some embodiments, wires **710** along with wire dial **712** may be used to tighten an accessory onto mounting unit **700**, and a back clip **714**, may be configured to accept at least one screw to pull and thereby tighten mounting unit towards the back end of the helmet, as detailed in U.S. Pat. No. 10,959,473 by the applicant, hereby incorporated by reference.

(86) In other embodiments, as will be explained in detail hereinbelow, the helmet mounting unit need not comprise the back clip **714** that requires screws but rather wires **710** pulled by and turned around wire dial **712**, may be used to tighten mounting unit **700** onto a helmet, alone.

(87) FIG. 8 is a schematic illustration of a perspective top view of a helmet mounting unit **700** comprising wires **710**, a wire dial **712** and a front clip **718** for attaching an accessory at the front side of the helmet, according to an embodiment of the disclosure. FIG. 9 is a schematic illustration

of a perspective side view of a helmet mounting unit **700** comprising wires **710**, a wire dial **712** and a front clip **718** for attaching an accessory at the front side of the helmet, according to an embodiment of the disclosure.

(88) FIG. **10** is a schematic illustration of a top view of links **110** of a helmet mounting unit comprising wires **710** passing therethrough, and a wire carrier **410** disconnected from the links, according to an embodiment of the disclosure. The wire carrier **410** may be similar to the wire carrier described in FIGS. **4-6**.

(89) FIG. **11A** is a schematic illustration of an exploded view of a helmet mounting unit **100**, which was illustrated in FIG. **1**, according to an embodiment of the disclosure.

(90) FIG. **11B** is a schematic illustration of a close-up side view of a front link **1100** of the helmet mounting unit **100**, according to an embodiment of the disclosure. Front link **1100** may comprise a section **1102**, which may be of a shape configured to hug the edge of the front side of the helmet onto which mounting unit **100** is attached. In some embodiments, front link **1100** may comprise a section **1104**, which along with backbone **1101** of front link **1100**, may create a 'U' shape at the front end of front link **1100**. Into the space **1106** created by the 'U' shape may be inserted an accessory connected configured to connect an accessory to mounting unit **100**, e.g., the WAS, though other augmented reality systems may be attached.

(91) FIGS. **11C-11D** are schematic illustrations of a perspective top view, and a rear view of a front link of the helmet mounting unit, respectively, according to an embodiment of the disclosure.

(92) FIG. **12A** is a schematic illustration of an exploded view of a helmet mounting unit **100** illustrating a wire dial link **712**, according to an embodiment of the disclosure.

(93) FIG. **12B** is a schematic illustration of a close-up side view of a wire dial link **712**, according to an embodiment of the disclosure. In some embodiments, wire dial link **712** may comprise a wire dial **1204** attached to a base **1202**. In some embodiments, base **1202** may comprise a dent **1206** (FIGS. **12C-12D**) in the shape of wire dial **1204** into which wire dial **1204** may be placed and attached to base **1202**.

(94) FIGS. **12C-12D** are schematic illustrations of a side view, and a front view of a wire dial link of the helmet mounting unit without the wire dial, i.e., of base **1202**, respectively, according to an embodiment of the disclosure.

(95) FIG. **12E** is a schematic illustration of a perspective side view of a wire dial link **712** of the helmet mounting unit comprising a wire dial **1204**, according to an embodiment of the disclosure.

(96) FIG. **13** is a schematic illustration of a rear view of a back link of the helmet mounting unit, according to an embodiment of the disclosure. In some embodiments, the helmet mounting unit, such as mounting unit **100**, may comprise a back link or clip, which comprises at least one screw that is to be screwed into a nut, as detailed in U.S. Pat. No. 10,959,473 by the applicant, hereby incorporated by reference. As detailed in U.S. Pat. No. 10,959,473, the at least one screw is configured to be screwed into a nut such to tighten the mounting unit onto the helmet. In some embodiments, mounting unit **100** may comprise two nuts at the rear side of wire dial link **712**. These two nuts, which may comprise e.g., a larger nut **1302** and a smaller nut **1304**, may be inserted into designated holes in the rear side of wire dial link **712**. At least one screw is to be screwed through either of these two nuts **1302** or **1304**. Incase a user desires a firm long term tightening of the mounting unit onto the helmet, the user may use one nut, e.g., the larger nut **1302**, which in some cases may comprise a nyloc nut (or nylon-insert lock nut), which comprises a nylon collar that increases friction on the screw thread. However, if the user desires to firmly tighten the mounting unit onto the helmet in such a way that he could later loosen the attachment between the mounting unit and the helmet, to enable the user to remove the mounting unit from the helmet, and perhaps position the mounting unit onto a different helmet, then the user should screw the at least one screw through the smaller nut **1304**, which doesn't comprise a nyloc nut but rather a standard nut.

(97) In some embodiments, the rear side of wire dial link **712** may comprise another hole **1306**,

into which spare nuts may be positioned, or into which a piece of material may be inserted to apply pressure onto tabs **1308**, which in turn apply pressure onto the nuts **1302** and **1304**, to keep them in place in their designated holes in rear side of wire dial link **712**.

(98) FIG. **14** is a schematic illustration of a side view of a helmet mounting unit tightened onto a helmet **1401**, and comprising wires passing through the links, a dial wire link and connectors holding the IVAS Microsoft system **1400**, according to an embodiment of the disclosure. That is, the wires twisted around and thereby pulled by wire dial **1204** may be connected to a connector **1404**, and connector **1404** may be configured to attach the IVAS **1400** to mounting unit **100** via the wires.

(99) FIG. **15** is a schematic illustration of a rear view of a helmet mounting unit **100** tightened onto a helmet **1401**, and comprising wires passing through the links, and a dial wire link comprising a wire dial, according to an embodiment of the disclosure.

(100) FIG. **16** is a schematic illustration of a side view of front connectors **1104** and **1404** of a helmet mounting unit holding the WAS Microsoft system **1400**, according to an embodiment of the disclosure. In some embodiments, mounting unit **100** may comprise a front link **1100** (FIGS. **11A-11D**), which may comprise a section **1104** configured to connect to IVAS **1400** by being inserted into a space created by handle **1406**. The space created between handle **1406** and the back side of WAS **1400** may be in the size and shape of section **1104**.

(101) In some embodiments, mounting unit **100** may further comprise a connector **1404**, which may be connected to wires **710** on one end, and connected to IVAS **1400** on its other end, via handle **1402**. In some embodiments, connector **1404** may comprise a hook that is to be inserted into handle **1402**.

(102) It should be appreciated that other AR systems may be attached to mounting unit **100** instead of the WAS **1400**, and the number and type of connectors may be changed and designed to fit any such system, and to thereby attach it to the mounting unit, e.g., mounting unit **100**.

(103) FIG. **17A** is a schematic illustration of a perspective side view of a helmet mounting unit **100** tightened onto a helmet comprising a go-pro adaptor link **1700** replacing one link, according to an embodiment of the disclosure. In some embodiments, one or more of the links **110**, may be replaced with a link that comprises an accessory adaptor, e.g., a go-pro adaptor **1700**. In other embodiments, other adaptors shaped to enable carrying of other accessories may be implemented within a link, comprising the links rod on one side and the links hooks on the other side, to enable the link adaptor to connect to the other mounting unit's links.

(104) FIG. **17B** is a schematic illustration of a close-up perspective side view of a go-pro adaptor link **1700** of the helmet mounting unit, according to an embodiment of the disclosure. In some embodiments, go-pro adaptor link **1700** may comprise a leading backbone **1704** along which a go-pro camera may be slid and attached to go-pro adaptor **1700**. In some embodiments, go-pro adaptor **1700** may comprise two supporting walls **1702** located on opposite sides of the go-pro adaptor **1700** to support a go-pro camera on both of its sides.

(105) FIGS. **17C-17D** are schematic illustrations of a perspective top side view, and a top view of a go-pro adaptor link **1700** of the helmet mounting unit **100**, respectively, according to an embodiment of the disclosure.

(106) FIG. **18A** is a schematic illustration of a perspective back view of a helmet mounting unit **1800** comprising wires and no screws, according to an embodiment of the disclosure. **1** bat is, helmet mounting unit **1800** does not comprise any screws for tightening mounting unit **1800** onto a helmet, but rather comprises wires such as wires **710** and a wire dial link comprising a wire dial that is configured to tighten mounting unit **1800** onto a helmet by tightening wires **710** and thereby the links, which the wires pass therethrough, against the external circumference of the helmet. In such case, mounting unit **1800** may comprise a rather simple front link **1802**, which comprises a hook-type edge to be held against the front edge of the helmet. And mounting unit **1800** may comprise a back link **1804** also comprising a hook-type edge to be held against the back edge of the

helmet.

(107) FIG. **18B** is a schematic illustration of a side view of a back link of a helmet mounting unit **1800** comprising a wire dial and no screws, according to an embodiment of the disclosure, and FIGS. **18C-18D** are schematic illustrations of a perspective side view, and a front view of a helmet mounting unit **1800** comprising a wire dial and no screws, respectively, according to an embodiment of the disclosure.

(108) FIG. **19A** is a schematic illustration of a perspective front view of a helmet mounting unit **1800** comprising wires and no screws, according to an embodiment of the disclosure. FIG. **19B** is a schematic illustration of a perspective front view of a second front link of a helmet mounting unit comprising a wire dial and no screws, according to an embodiment of the disclosure.

(109) In some embodiments, when wires **710** are tightened by twisting and turning wire dial **1204** (FIG. **12**), the wires **710** are pulled towards wire dial **1204**, i.e., towards the back side of mounting unit **1800**. However, the front link **1802** which is positioned onto the front edge of the helmet, prevents movement of the front link **1802** itself as well as of the other links **110** connected to it, thus first front link **1802** causes the links **110** to be pulled towards the front edge of the mounting unit **1800**. In order to enable a pull and tightening of the links **110** and thereby of mounting unit **1800** onto the external circumference of the helmet, the second front link **1902** may comprise elongated hooks **1904**, which create elongated space **1924** along which the first front link **1802** may be inserted and moved. This space **1924** along each elongated hook **1904** may further allow movement of the links **110** along with first front link **1802** towards the front side of mounting unit **1800** to thereby tighten mounting unit **1800** onto the helmet. That is, elongated space **1924** enables first front link **1802** to move along the elongated hooks **1904** or enables second front link **1902** to move along first front link **1802**, thereby enabling movement of the links attached to the second front link **1902** to move towards the front edge of the helmet and to tighten the entire links of mounting unit **1800** against the external circumference of the helmet.

(110) FIGS. **19C-19D** are schematic illustrations of a side view, and a front view of a second front link **1902** of a helmet mounting unit **1800** comprising a wire dial and no screws, respectively, according to an embodiment of the disclosure.

(111) FIG. **20A** is a schematic illustration of a perspective front view of a helmet mounting unit comprising wires and no screws, according to an embodiment of the disclosure. FIG. **20B** is a schematic illustration of a perspective side view of a first front link **1802** of a helmet mounting unit **1800** comprising a wire dial and no screws, according to an embodiment of the disclosure, and FIGS. **20C-20D** are schematic illustrations of a side view, and a front view of a first front link **1802** of a helmet mounting unit **1800** comprising a wire dial and no screws, respectively, according to an embodiment of the disclosure.

(112) In some embodiments, first front link **1802** may comprise a rod **2002** such as rod **302** on one end so as to enable easy connection to an adjacent link's hooks, while the other end may comprise hooks **20004** to be held against the front edge of a helmet.

(113) FIG. **21** is a schematic illustration of a helmet mounting unit for holding an AR system with a wire or cable **2100** running through wire carriers **410** in addition to wires **710**, according to an embodiment of the disclosure. The additional wire **2100** may be used as a replacement for the back link or clip that comprises screws. That is, the additional wire **2100** makes the screws redundant in view of the existing wires and cable **2100**.

(114) FIGS. **22A-22D** are schematic illustrations of a first link of a plurality of links from which a helmet mounting unit is comprised of, according to embodiments of the present disclosure. FIG. **22A** is a front (or external) view of first link **2200**, FIG. **22B** is a side view thereof, FIG. **22C** is a rear (or internal) view thereof and FIG. **22D** is a front-side perspective view thereof. In some embodiments, first link **2200** may be configured to attach onto a first edge of a helmet, e.g., helmet **2230** (FIGS. **23A-23B**). For example, first link **2200** may be attached onto a front edge of a helmet, i.e., above the face of a user, as one link of a plurality of links that helmet mounting unit **2240** is

comprised of.

(115) In some embodiments, first link **2200** may comprise a link body **2210**. First link **2200** may comprise a clip **2201**, which may be integral to link body **2210** on a first end of first link **2200**. Clip **2201** may be configured to attach first link **2200** onto a first edge of the helmet such that the first edge of the helmet is located between link body **2210** and clip **2201**. First link **2200** may further comprise at least one hook **2216** located at a second end of first link **2200**, opposite the first end, i.e., opposite clip **2201**. Typically, first link **2200** may comprise two hooks **2216**. Each hook **2216** may comprise an elongated arm **2212**, which may be integrally connected to body link **2210**. Elongated arm **2212** may comprise a curved end **2222**, which is part of the connecting mechanism for connecting the first link **2200** to a middle link, as will be detailed hereinbelow.

(116) In some embodiments, each of the two hooks **2216** may comprise a step **2224** located along elongated arm **2212**. Step **2224** may be a protrusion configured to prevent easy disconnection between first link **2200** and any link connected to it. Each of two hooks **2216** creates an opening **2214** beneath curved end **2222**. In some embodiments, opening **2214** of each of the two hooks **2216** may be directed in the same direction, whereas in other embodiments, openings **2214** of each of two hooks **2216** may be directed in opposite directions, as illustrated in FIGS. **22A-22D**, where one opening **2214** is directed towards the external side of first link **2200** while the other opening **2214** is directed towards the internal side of first link **2200**.

(117) FIGS. **24A-24F** are schematic illustrations of a first link of a plurality of links from which a helmet mounting unit is comprised of, according to other embodiments of the present disclosure. FIG. **24A** is a front (or external) view of first link **2400**, FIG. **24B** is a side view thereof, FIG. **24C** is a rear (or internal) view thereof and FIG. **24D** is a front-side perspective view thereof.

(118) In some embodiments, a first link **2400** is configured for connection of night vision goggles (NVG) by implementing link body **2410** which is dedicated specifically for connecting a NVG system. That is, link body **2410** has the shape of an off-the-shelf NVG adaptor.

(119) In some embodiments, first link **2400** may be configured to attach onto a first edge of a helmet, e.g., helmet **2430** (FIGS. **24E-24F**). For example, first link **2400** may be attached onto a front edge of a helmet, i.e., above the face of a user, as one link of a plurality of links that helmet mounting unit **2440** is comprised of.

(120) In some embodiments, first link **2400** may comprise a link body **2410**. Link body **2410** may be configured for direct connection of an NVG system onto it, without the need for a specialized additional adaptor between link body **2410** and the NVG system, as with link body **2510** detailed hereinbelow with respect to FIGS. **25A-25F**.

(121) First link **2400** may comprise a clip **2401**, which may be integral to link body **2410** on a first end of first link **2400**. Clip **2401** may be configured to attach first link **2400** onto a first edge of the helmet such that the first edge of the helmet is located between link body **2410** and clip **2401**. First link **2400** may further comprise at least one hook **2416** located at a second end of first link **2400**, opposite the first end, i.e., opposite clip **2401**. Typically, first link **2400** may comprise two hooks **2416**. Each hook **2416** may comprise an elongated arm **2412**, which may be integrally connected to body link **2410**. Elongated arm **2412** may comprise a curved end **2422**, which is part of the connecting mechanism for connecting the first link **2400** to a middle link, as will be detailed hereinbelow.

(122) In some embodiments, each of the two hooks **2416** may comprise a step **2424** located along elongated arm **2412**, e.g., at substantially the middle of elongated arm **2412**. Step **2424** may be a protrusion configured to prevent easy disconnection between first link **2400** and any link connected to it. Each of two hooks **2416** creates an opening **2214** beneath curved end **2422**. In some embodiments, opening **2414** of each of the two hooks **2416** may be directed in the same direction, whereas in other embodiments, openings **2414** of each of two hooks **2416** may be directed in opposite directions, as illustrated in FIGS. **24A-24D**, where one opening **2414** is directed towards the external side of first link **2400** while the other opening **2414** is directed towards the internal

side of first link **2400**.

(123) FIGS. **25A-25F** are schematic illustrations of a first link of a plurality of links from which a helmet mounting unit is comprised of, according to another embodiment of the present disclosure. FIG. **25A** is a front (or external) view of first link **2500**, FIG. **25B** is a side view thereof, FIG. **25C** is a rear (or internal) view thereof, FIG. **25D** is a front-side perspective view thereof and FIG. **25E** is an enlarged front-side perspective view thereof.

(124) In some embodiments, first link **2500** may be configured to attach onto a first edge of a helmet, e.g., helmet **2630** (FIGS. **26B-26C**). For example, first link **2500** may be attached onto a front edge of a helmet, i.e., above the face of a user, as one link of a plurality of links that helmet mounting unit **2640** is comprised of.

(125) In some embodiments, first link **2500** may comprise a link body **2510**. First link **2500** may comprise a clip **2501**, which may be integral to link body **2510** on a first end of first link **2500**. Clip **2501** may be configured to attach first link **2500** onto a first edge of the helmet such that the first edge of the helmet is located between link body **2510** and clip **2501**. First link **2500** may further comprise at least one hook **2516** located at a second end of first link **2500**, opposite the first end, i.e., opposite clip **2501**. Typically, first link **2500** may comprise two hooks **2516**. Each hook **2516** may comprise an elongated arm **2512**, which may be integrally connected to body link **2510**. Elongated arm **2512** may comprise a curved end **2522**, which is part of the connecting mechanism for connecting the first link **2500** to a middle link, as will be detailed hereinbelow.

(126) In some embodiments, each of the two hooks **2516** may comprise a step **2524** located along elongated arm **2512**. Step **2524** may be a protrusion configured to prevent easy disconnection between first link **2500** and any link connected to it. Each of two hooks **2516** creates an opening **2514** beneath curved end **2522**. In some embodiments, opening **2514** of each of the two hooks **2516** may be directed in the same direction, whereas in other embodiments, openings **2514** of each of two hooks **2516** may be directed in opposite directions, as illustrated in FIG. **25D**, where one opening **2514** is directed towards the external side of first link **2500** while the other opening **2514** is directed towards the internal side of first link **2500**.

(127) In some embodiments, link body **2510** may create a space **2550** between the two opposing elongated arms **2512** into which various accessory adaptors may be inserted for accessory connection to the helmet via link body **2500**. An accessory adaptor, e.g., an NVG adaptor **2560**, which comprises a rotatable arm, may be attached to link body **2500** by being inserted into space **2550** while being supported by section **2552** of link body **2510** that is located between the two elongated arms **2512**, as illustrated in FIGS. **26A-26C**. Section **2552** may be an indent along link body **2510** between elongated arms **2512**, such that an adaptor with a corresponding elongated tab may be configured to lean against section **2552** when the adaptor is placed into space **2550**, thereby securing a connection between the adaptor and link **2500**.

(128) In some embodiments, a dedicated NVG system may be attached to NVG adaptor **2560** via its rotatable arm.

(129) FIGS. **27A-27E** are schematic illustrations of a middle link of a plurality of links from which a helmet mounting unit is comprised of, according to embodiments of the present disclosure. FIG. **27A** is a front (or external) view of middle link **2700**, FIG. **27B** is a side view thereof, FIG. **27C** is a rear (or internal) view thereof, FIG. **27D** is a front-side perspective view thereof, and FIG. **27E** is a rear (or internal) view illustrating different surfaces of middle link **2700**. In some embodiments, middle link **2700** may be configured to attach onto the external circumference a helmet, e.g., helmet **2830** (FIGS. **28A-28B**). In some embodiments, middle link **2700** may be one link of a plurality of links that helmet mounting unit **2840** is comprised of. Middle link **2700** may be configured to connect to a first link, e.g., first link **2200**, **2400** or **2500**, to connect to other middle links, or to connect to an end link, which is configured to be connected to an edge of the helmet that is opposite the first edge of the helmet.

(130) That is, middle link **2700** is the main link that a link-based helmet mounting unit, e.g., helmet

mounting unit **2840**, is comprised of.

(131) Middle link **2700** may be retractable and rechargeable in case it is broken, thereby avoiding the need to replace an entire helmet mounting unit if a section of it is damaged. In addition, since middle links **2700** may be configured to have accessory adaptors connected thereon, a change in location of any accessory along the circumference of the helmet may be implemented by disconnecting a certain middle link **2700** with a certain accessory adaptor and connecting it at the new location, after disconnecting a previous middle link **2700** at the desired location.

(132) In case the accessory adaptor is extractable from the middle link **2700**, one accessory adaptor may be changed with a different accessory adaptor, per user preferences, anywhere along the link-based helmet mounting unit.

(133) The number of middle links **2700** that are connected to one another between a first link and an end link may be adjustable per size of the helmet. For a larger sized helmet, a larger number of middle links **2700** connected to one another, may be used. Whereas, for a smaller sized helmet, a smaller number of middle links **2700** connected to one another, may be used.

(134) In some embodiments, the first, middle and end links may be made of rigid materials, and the link-based helmet mounting unit may still have flexibility characteristics due to presence of a plurality of links. Since each link is a relatively small part with respect to the entire link-based helmet mounting unit, flexibility of the helmet mounting unit with respect to the helmet onto which it is attached, e.g., the ability to attach the helmet mounting unit onto substantially any shaped surface, for example, a flat or curved surface, is achieved by the plurality of links.

(135) Each of the links is designed to have a multi-curve area **2772** at its internal side, i.e., at the side that is in contact with the external circumference of the helmet, such to be able to create sufficient contact between each link and the helmet's surface, as well as enable proper tightening of the link-based helmet mounting unit along the helmet's external circumference by having a flat surface area **2774** at the edges of middle link **2700**.

(136) In some embodiments, middle link **2700** may comprise a link body **2710**. Middle link **2700** may comprise a rod **2701**, which may be integral to link body **2710** on a first end of middle link **2700**. Middle link **2700** may further comprise at least one hook **2716** located at a second end of middle link **2700**, opposite the first end, i.e., opposite rod **2701**. Typically, middle link **2700** may comprise two hooks **2716**. Each hook **2716** may comprise an elongated arm **2712**, which may be integrally connected to body link **2710**. Elongated arm **2712** may comprise a curved end **2722**, which is part of the connecting mechanism for connecting the middle link **2700** to another middle link or to an end link, as will be detailed hereinbelow.

(137) In some embodiments, each of the two hooks **2716** may comprise a step **2724** located along elongated arm **2712**. Step **2724** may be a protrusion configured to prevent easy disconnection between middle link **2700** and any link connected to it. Each of two hooks **2716** creates an opening **2714** beneath curved end **2722**. In some embodiments, opening **2714** of each of the two hooks **2716** may be directed in the same direction, whereas in other embodiments, openings **2714** of each of two hooks **2716** may be directed in opposite directions, as illustrated in FIG. 27D, where one opening **2714** is directed towards the external side of middle link **2700** while the other opening **2714** is directed towards the internal side of middle link **2700**.

(138) In some embodiments, the at least one hook **2716** of one middle link **2700** is configured to connect onto a rod **2701** of another middle link **2700** (or an end link) with the curved end **2722** of hook **2716** hugging the rod **2701**, thereby enabling connection between the plurality of links to form the link-based helmet mounting unit **2840** (FIGS. 28A-28B). as further illustrated in FIGS. 28A-28B, the middle link **2700** that is connected to the first link, whether first link **2200**, **2400** or **2500**, may be connected to the first link via the at least one hook of the first link hugging the rod **2701** of the middle link.

(139) In some embodiments, middle link **2700** may comprise a space **2750** created between the two elongated arms **2712**. Into space **2750**, an accessory adaptor or a cover may be inserted, as will be



explained in detail hereinbelow.

(140) In some embodiments, no space is created between the elongated arms **2912** of middle link **2900**, as illustrated in FIGS. **29A-29D**. In such embodiments, middle link body **2910** comprising area **2955** may not be able to have attached thereon an accessory adaptor, and may only serve as a connecting link between other two links, as illustrated in FIGS. **30A-30B**, via rod **2901** and at least one hook **2916**, which are similar to those of middle link **2700**.

(141) FIGS. **30A-30B** schematically illustrate connection of middle link **2900** to other links, on both ends of middle link **2900**, to thereby create a link-based helmet mounting unit **3040**.

(142) FIGS. **31A-31E** are schematic illustrations of a middle link comprising an integral GoPro adaptor, according to embodiments of the present disclosure. FIG. **31A** is a front (or external) view of GoPro middle link **3100**, FIG. **31B** is a side view thereof, FIG. **31C** is a rear (or internal) view thereof, FIG. **31D** is a front-side perspective view thereof, and FIG. **31E** is a rear (or internal) perspective view illustrating the at least one hook of middle link **3100**.

(143) In some embodiments, GoPro middle link **3100** may comprise a rod **3101** at one end of middle link body **3110**, and at least one hook **3116** at the opposite end of middle link body **3110**. Typically, GoPro middle link **3100** may comprise two hooks **3116**. Each of hooks **3116** may create an opening **3114** beneath curved end **3122**. In some embodiments, as illustrated with respect to first links and previous middle links, openings **3114** may be directed towards opposite directions, whereas in some embodiments, and as illustrated in FIGS. **31A-31E**, openings **3114** may be directed towards the same direction, e.g., towards the rear side or internal side of GoPro middle link **3100**.

(144) The at least one hook **3116** may be configured to connect to and hug a corresponding rod of an adjacent link, whereas at least one hook of another adjacent link may be connected to and hug rod **3101** of GoPro middle link **3100**.

(145) GoPro middle link body **3110** may comprise an integral shape designated for GoPro device attachment. For example, GoPro middle link **3100** may comprise a guide **3162** positioned between two walls **3164**, which are located on opposite sides, typically the opposite right and left edges, of GoPro middle link body **3110**. A GoPro device may comprise a corresponding indent which may be slid along guide **3162**, and may be of a sufficient size such to be held between opposing walls **3164**, such to enable easy connection between a GoPro device and GoPro middle link **3100**.

(146) FIGS. **32A-32B** schematically illustrate connection of GoPro middle link **3100** to other links, on both ends of GoPro middle link **3100**, i.e., the top and bottom ends, to thereby create a link-based helmet mounting unit **3240**.

(147) FIGS. **33A-33E** are schematic illustrations of a middle link comprising an integral Picatinny adaptor, according to embodiments of the present disclosure. FIG. **33A** is a front (or external) view of Picatinny middle link **3300**, FIG. **33B** is a side view thereof, FIG. **33C** is a rear (or internal) view thereof, FIG. **33D** is a front-side perspective view thereof, and FIG. **33E** is a rear (or internal) perspective view illustrating the hooks of Picatinny middle link **3300** with their opening positioned towards the same direction.

(148) In some embodiments, Picatinny middle link **3300** may be similar to GoPro middle link **3100** with respect to all of its features, except for the main body section of Picatinny middle link **3300**, which comprises an integral adaptor configured to enable attachment of accessories preconfigured to attach onto a Picatinny rail. The body of Picatinny middle link **3300** may comprise at least one track **3362** along which an accessory with a corresponding space may be slid onto. In some embodiments, at least one track **3362** may be positioned between two top and bottom tracks **3364**, which may also enable attachment thereon of a suitable accessory, for example, an illumination source.

(149) FIGS. **34A-34B** schematically illustrate connection of Picatinny middle link **3300** to other links, on both ends of Picatinny middle link **3300**, i.e., the top and bottom ends, to thereby create a link-based helmet mounting unit **3440**.

(150) FIGS. 35A-35E are schematic illustrations of a middle link comprising an integral Dove-tail type adaptor, according to embodiments of the present disclosure. FIG. 35A is a front (or external) view of Dove-tail middle link 3500, FIG. 35B is a side view thereof, FIG. 35C is a rear (or internal) view thereof, FIG. 35D is a front-side perspective view thereof, and FIG. 35E is a rear (or internal) perspective view illustrating the two hooks of Dove-tail middle link 3500 with their openings positioned towards the same direction.

(151) In some embodiments, Dove-tail middle link 3500 may be similar to GoPro middle link 3100 with respect to all of its features, except for the main body section of Dove-tail middle link 3500, which comprises an integral adaptor configured to enable attachment of accessories preconfigured to attach onto a Dove-tail type adaptor. The body of Dove-tail middle link 3500 may comprise at least one indent 3562 into which an accessory with a corresponding protrusion may be inserted into. In some embodiments, at least one indent 3362 may be positioned between two supporting walls 3564, which may be positioned on the right and left sides of Dove-tail middle link 3500.

(152) FIGS. 36A-36B schematically illustrate connection of Dove-tail middle link 3500 to other links, on both ends of Dove-tail middle link 3500, i.e., the top and bottom ends, to thereby create a link-based helmet mounting unit 3640.

(153) It should be clear that the middle link may have an integrated adaptor of practically any kind, in order to enable connection of any type of accessory thereon. The GoPro, Picatinny and Dove-tail adaptors are mere examples of other adaptors that may be implemented as part of the middle link.

(154) FIGS. 37A-37E are schematic illustrations of an extractable cap configured to cover the space or opening created between the two elongated arms of either of the first links or middle links that comprise such an opening. FIG. 37A is a front view of extractable cap 3700, FIG. 37B is a top view thereof, FIG. 37C illustrates the extractable cap 3700 with respect to a link comprising an opening into which extractable cap 3700 may be inserted, FIG. 37D is a cross section of the extractable cap 3700 when placed inside its corresponding opening within the link, and FIG. 37E is a top perspective view thereof.

(155) In some embodiments, extractable cap 3700 may comprise a protruding flexible tooth 3702 located on each side, e.g., right and left, of the extractable cap 3700. Each protruding tooth 3702 may be part of a flexible U-shaped spring 3701. Each of the protruding flexible teeth 3702 may be configured to be pushed against a corresponding indent 3712 along either side of the link body. When the extractable cap 3700 is pushed into the opening 3750 within the link body, each protruding tooth 3702 is pushed against its corresponding indent 3712 to secure the extractable cap 3700 into the link body.

(156) In some embodiments, each of the protruding teeth 3702 is connected to a squeezable wing 3704, the two squeezable wings 3704 located on opposite sides of the extractable cap 3700, wherein when the squeezable wings 3704 are squeezed towards the middle of the extractable cap 3700, each protruding tooth 3702 is pulled away from its corresponding indent 3712 to thereby enable extraction of the extractable cap 3700 from the link body.

(157) That is, in order to insert extractable cap 3700 into the opening 3750 of the link body, extractable cap 3700 is pushed into the opening, squeezable wings 3704 are thereby squeezed toward the middle of extractable cap 3700, and protruding teeth 3702 are pushed against their respective indents 3712. And in order to extract extractable cap 3700 away from the opening 3750 of the link body, a user squeezes squeezable wings 3704 to thereby retract each of the protruding teeth 3702 away from their respective indents 3712, i.e., towards the middle of extractable cap 3700, which enables easy extraction of the entire extractable cap 3700 away from the link.

(158) FIGS. 38A-38C schematically illustrate extractable cap 3700 as it is located within a corresponding link, which is part of an entire set of links comprising a helmet mounting unit 3840.

(159) FIGS. 39A-39E are schematic illustrations of a cap configured to cover the space or opening created between the two elongated arms of either of the first links or middle links that comprise such an opening. FIG. 38A is a front view of cap 3900, FIG. 39B is a top view thereof, FIG. 39C

illustrates the cap **3900** with respect to a link comprising an opening into which extractable cap **3900** may be inserted, FIG. **39D** is a cross section of the cap **3900** when placed inside its corresponding opening within the link, and FIG. **39E** is a top perspective view thereof.

(160) In some embodiments, cap **3900** may comprise a protruding tooth **3902** located on each side, e.g., right and left, of the cap **3900**. Each protruding tooth **3902** may be part of a flexible U-shaped spring **3901**. Each of the protruding teeth **3902** may be configured to be pushed against a corresponding indent **3912** along either side of the link body. When the cap **3900** is pushed into the opening **3950** within the link body, each protruding tooth **3902** is pushed against its corresponding indent **3912** to secure the cap **3900** into the link body.

(161) Cap **3900** may differ from extractable cap **3700** by not comprising a set of squeezable wings, which prevent easy extraction of cap **3900** out of the opening within the link from the top or external side of cap **3900**. Cap **3900** may be extracted out of the opening by removing the entire helmet mounting unit **4040** and pushing flexible teeth **3902** from the bottom side of cap **3900**.

(162) That is, in order to insert cap **3900** into the opening **3950** of the link body, cap **3900** is pushed into the opening, and protruding teeth **3902** are pushed against their respective indents **3912**. And in order to extract cap **3900** away from the opening **3950** of the link body, a user is required to pull each of protruding teeth **3902** towards the middle of cap **3900** to thereby retract each of the protruding teeth **3902** away from their respective indents **3912**, which enables extraction of the entire cap **3900** away from the link, only via the bottom side of cap **3900**, which is more difficult compared to the extraction of extractable cap **3700**.

(163) FIGS. **40A-40C** schematically illustrate extractable cap **3900** as it is located within a corresponding link, which is part of an entire set of links comprising a helmet mounting unit **4040**.

(164) FIGS. **41-45** schematically illustrate different examples for caps and/or extractable caps integrally incorporating different types of accessory adaptors, such to enable replacement of one accessory adaptor with another, at any location along a helmet mounting unit, by extracting one cap with a first accessory adaptor from a middle link and inserting a different cap with a different accessory adaptor into that same middle link. Each of the caps comprises the flexible protruding tooth based locking-mechanism, as illustrated with respect to extractable cap **3700** and cap **3900**.

(165) FIG. **41** illustrates a cap **4100** incorporating a GoPro adaptor. FIG. **42** illustrates a screw adaptor **4200** with holes **4202**, which are configured to enable connection of an accessory via screws that are to be screwed into hole **4202**. FIG. **43** illustrates a cap **4300** incorporating a picatinny adaptor. FIGS. **44A-44C** illustrate a cap **4400** incorporating a double-sided hook adaptor **4402** with a rounded middle shape onto which a circular-shaped accessory, e.g., a flashlight **4420**, may be placed, and which hooks **4404** are configured to accept an elastic band **4410**, e.g., a rubber band, such that the accessory would be held between the circular surface of adaptor **4402** and the elastic band **4410** held on both sides by hooks **4404**.

(166) FIG. **45** illustrates a cap incorporating a fashion element **4500**. The fashion element may have different shapes and/or different colors. In this case, it is a horn shape, which may be attached on the helmet mounting unit to differentiate the look of the helmet implementing such element from other helmets that do not have such a fashion element attached thereon. A fashion element may be used and attached onto a helmet, for example, when a parent wishes to ease identifying their child who is using the helmet from other helmet users.

(167) FIGS. **46A-46B** schematically illustrate helmet mounting unit **4600** which comprises the different caps **4100**, **4200**, **430**, **4400** and **4500** as they are attached onto the helmet mounting unit **4600**. These caps are mere examples of other caps having other adaptors integrated therein, which may be inserted into and extracted from a middle link having an opening configured to accept such caps. A user may change location of the different caps along the helmet mounting unit, and may replace one cap with another, according to user's needs and/or preferences. This enables the helmet mounting unit to be versatile and adjustable per user preferences, instead of replacing an entire helmet mounting unit and preparing a new helmet mounting unit per user's needs, when no

interchangeable caps are implemented.

(168) FIGS. **47A-47E** are schematic illustrations of the NVG adaptor **2560**, illustrated in FIGS. **26A-26C**. FIG. **47** illustrate the prior-art NVG adaptor comprising a rotatable arm, which is screwed into a dedicated helmet mounting unit adaptor.

(169) FIG. **47A** illustrates a side view of the NVG adaptor **2560** and its rotatable arm **4700**, FIG. **47B** illustrates a bottom view thereof, FIG. **47C** illustrates an assembled top view thereof, FIG. **47D** illustrates an exploded view thereof, FIG. **47E** illustrates a bottom perspective view of the NVG adaptor **2560** as it is assembled onto a front link, and FIG. **47F** illustrates a top perspective view thereof.

(170) NVG adaptor **2560** comprises a rotatable arm **4700**, and may be attached to any link body, typically a first link, which may be placed at the front side of a helmet, above the face of a user. NVG adaptor **2560** may be attached to a corresponding link by being inserted into a space created by the link's body, e.g., space **2550**, as illustrated in FIGS. **26A-26C**, while being supported by section **2552** of link body **2510** that is located between the two elongated arms **2512**, as illustrated in FIG. **25A**. Section **2552** may be an indent along link body **2510** between elongated arms **2512**, such that NVG adaptor **2560** with a corresponding elongated tab **2562** may be configured to lean against section **2552** when the NVG adaptor **2560** is placed into space **2550**, thereby securing a connection between the NVG adaptor **2560** and link **2500**.

(171) In some embodiments, a dedicated NVG system may be attached to NVG adaptor **2560** via its rotatable arm **4700**.

(172) NVG adaptor **2560** may comprise an extracting or locking mechanism that is similar to that of extractable cap **3700**, i.e., to include flexible protruding teeth **2564** that are configured to be inserted into and to be extracted from corresponding indents within the opposing sides of the link body, e.g., link **2500**.

(173) NVG adaptor **2560** may be connected to its rotatable arm **4700** via rod **4710**, onto which rotatable arm **4700** may rotate to thereby create different angles between NVG adaptor **2560** and arm rotatable **4700**.

(174) FIGS. **48A-48F** are schematic illustrations of an end link comprising a tightening mechanism configured to tighten the entire link-based helmet mounting unit onto the external circumference of a helmet, according to embodiments of the present disclosure.

(175) FIG. **48A** is a top perspective view of end link **4800** in an expanded configuration, FIG. **48B** is a top perspective view in a closed configuration thereof, FIG. **48C** is a top view thereof, with a transparent top, FIG. **48D** is a top perspective view thereof in an expanded configuration, FIG. **48E** is a top view thereof with a transparent top, and FIG. **48F** is an exploded view thereof.

(176) End link **4800** may comprise a clip **4801** at one end of end clip **4800**, which is typically the end that is configured to connect end link **4800** onto an edge of a helmet, e.g., above the back of a user. The helmet edge may thus be attached between clip **4801** and the body **4810** of end link **4800**.

(177) End clip **4800** may further comprise a rod **4811** at the opposite end of end clip **4800**, which may be configured to be connected to at least one hook of a middle link. Thus, end clip **4800** may be connected to a plurality of middle links and to a first link via rod **4811**.

(178) As illustrated in FIG. **48F**, end clip **4800** comprises a top shell **4824** and a bottom shell **4834** which cover several inner components of the tightening mechanism of end clip **4800**. A section of rod **4811**, e.g., a top section **4811a** may be an integral extension of top shell **4824**, while a second section of rod **4811**, i.e., bottom section **4811b** may be an integral extension of bottom shell **4834**.

(179) A rotatable dial or knob **4822** may be connected to top shell **4824** via main cog wheel **4826**, as well as via two stoppers **4830**, whereby top shell **4824** may comprise corresponding holes for each of main cog wheel **4826** and two stoppers **4830** such that these components pass through the holes and connect to rotatable dial **4822**.

(180) A secondary cog wheel **4828** may be located adjacent main cog wheel **4826**, and may rotate when main cog wheel **4826** is rotated.

(181) End clip **4800** may further comprise end link body **4810**, which may have attached two linear gears or racks **4832**, and two back clips **4836** which comprise a protruding tooth or clip that is configured to be caught by the holes **4831** located along stoppers **4830**. Racks **4832** and back clips **4836** may be an integral part of end link body **4810**.

(182) In order to pull the entire links of the link-based helmet mounting unit that are connected to one another, from the first link, via the plurality of middle links, towards end link **4800** and thus tighten the link-based helmet mounting unit onto an external circumference of a helmet, a user operates the closing mechanism of end link **4800**. The user rotates dial **4822**, which causes main cog wheel **4826** to rotate in the same direction, e.g., clockwise. Main cog wheel **4826** thus rotates towards clip **4801** along first rack **4832**, while further causing secondary cog wheel **4828** to rotate in an opposite direction of that of main cog wheel **4826**, e.g., secondary cog wheel **4828** may rotate counterclockwise. Secondary cog wheel **4828** thus rotates towards clip **4801** along the second rack **4832**, which secondary cog wheel **4828** is adjacent and in contact with. When the user stops rotation of dial **4822**, the flexible protruding clip **4837** of each of back clips **4836** is pushed into an adjacent hole **4831** of the respective stoppers **4830**, to thereby maintain the tightening force unchangeable, until dial **4822** is further rotated in the same direction. That is, rotation of dial **4822** in one direction causes the components encapsulated within top shell **4824** and bottom shell **4834** to come closer to clip **4801**, which is equivalent to having the plurality of links connected to end link **4800** via rod **4811** to come closer to clip **4801** and thus be tightened against and onto the external circumference of a helmet to ensure a solid and safe connection between the link-based helmet mounting unit and the helmet.

(183) Rotation of main cog wheel **4826** which turns secondary cog wheel **4828** creates a symmetric and synchronous movement of these two cog wheels **4826** and **4828** along their respective racks **4832**, and thus for a synchronous movement of the plurality of links towards clip **4801**, which tightens the plurality of links onto the helmet for a safe connection between the link-based helmet mounting unit and the respective helmet.

(184) In this tightening mechanism of end link **4800**, it is not possible to rotate dial **4822** in the opposite direction, to loosen the pulling force of the links onto the external circumference of the helmet, since clips **4837** are prevented from exiting their respective holes **4831** due to their shape. That is, clips **4837** may only exit holes **4831** when dial **4822** is rotated in a tightening direction, not the opposite.

(185) In order to loosen the connection between the link-based helmet mounting unit and the helmet, dial **4822** is pulled upwards, which causes an upward pulling force of the main cog wheel **4826** and stoppers **4830**. This upward movement releases the respective back clips **4863** and enables the user to manually distant end link shell (top shell **4824** and bottom shell **4834**) from end link body **4810** and clip **4801**, such to lengthen the size of end link **4800**. Lengthening size of end link **4800** is equivalent to lengthening size of the entire link-based helmet mounting unit, which releases the connection between the link-based helmet mounting unit and the helmet.

(186) FIGS. **49A-49B** illustrate end link **4800** as it is assembled and tightened onto the external circumference of the helmet **4940**, as part of the entire link-based helmet mounting unit **4960**.

(187) FIGS. **50A-50D**, **51A-51D** and **52A-52C** schematically illustrate an end clip comprising two parts connected together via an elongated screw, according to embodiments of the present disclosure.

(188) FIG. **50A** illustrates a front view of a first end link **5000**, FIG. **50B** illustrates a side view thereof, FIG. **50C** illustrates a rear view thereof, and FIG. **50D** illustrates a rear-side perspective view thereof. FIG. **51A** illustrates a front view of a second end link **5100**, FIG. **51B** illustrates a side view thereof, FIG. **51C** illustrates a rear view thereof, and FIG. **51D** illustrates a side perspective view thereof.

(189) FIG. **52A** illustrates an exploded view of the two part end link, i.e., first end link **5000**, second end link **5100** and the elongated screw that is configured to attach second end link **5100** to

first end link **5000**, while pulling the rest of the links of the link-based helmet mounting unit towards the two part end link to thereby tighten connection between the link-based helmet mounting unit and the respective helmet.

(190) FIGS. **52B-52C** illustrate the two-part end link as it is assembled and tightened onto a helmet as part of the link-based helmet mounting unit **5260**.

(191) In some embodiments, the two-part end link may comprise a first end link **5000**, which may comprise a rod **5011** located on one end of first end link **5000**. Rod **5011** is configured to be connected and hugged by at least one hook of an adjacent middle link, in order to connect the two-part end link to the rest of the links of link-based helmet mounting unit, e.g., helmet mounting unit **5260**.

(192) In some embodiments, first end link **5000** may comprise a hole **5040** located on an opposite end of first end link **5000**, which may be a threaded hole configured to accept insertion of screw **5050** therethrough. Optionally, first end link **5000** may further comprise a space **5042** located at the rear side of first end link **5000**. Space **5042** may comprise an imbedded nut located with respect to hole **5040**, such that elongated screw **5050** would pass through the nut while passing through hole **5040**.

(193) Second end link **5100** may comprise a clip **5101** located on one side of second end link **5100**. Clip **5101** may be configured to connect second end link **5100** onto an edge of a helmet, typically a back edge of the helmet located above the back of the user. Thus, the edge of the helmet is configured to be positioned between clip **5101** and second end link body **5110**.

(194) In some embodiments, second end link **5100** may comprise a hole **5150** passing through second end link body **5110** to enable insertion of elongated screw **5050** therethrough. Optionally, hole **5150** may be a threaded hole. Optionally, hole **5150** may comprise an embedded nut therein.

(195) As illustrated in FIGS. **52A-52C**, an elongated screw **5050** may be screwed into corresponding hole **5040** and **5150** to thereby connect first end link **5000** with second end link **5100**. In addition, the more elongated screw **5050** is screwed into the corresponding holes, the closer first end link **5000** is to second end link **5100**, which further causes the rest of the links, which are connected to first end link **5000** via rod **5011**, to come closer to second end link **5100**, thereby tightening the entire link-based helmet mounting unit onto the external circumference of a respective helmet, e.g., helmet **5240**.

(196) FIGS. **53A-53J** schematically illustrate a 'turn-and-pull' connection between two adjacent links, whereby one of the links comprises two hooks with their elongated arm's opening facing opposite directions, according to embodiments of the present disclosure.

(197) FIG. **53A** is an enlarged view of the elongated arms facing opposite directions, and FIG. **53B-53D** are top perspective views of the 'turn' operation of one link with respect to another. FIG. **53E** is a top perspective view of two links connected after the turn operation, FIG. **53F** is a side view thereof and FIG. **53G** is a close up of the connection area of the two links. FIG. **53H** is a top perspective view of two links connected after the 'pull' operation, FIG. **53I** is a side view thereof and FIG. **53J** is a close up of the connection area of the two links.

(198) Two middle links, whereby each may comprise a rod on one end and two hooks that the openings created at the end of each hook are facing opposite directions, e.g., middle links **2700**, **2900** or a middle link with an integrated accessory adaptor, may be connected via a 'turn-and-pull' connecting method. Any other links, e.g., a first and middle link, or a middle and end link, whereby one comprises a rod and the other comprises two hooks with their opening facing opposite directions may be connected via this same connecting method.

(199) In some embodiments, one link **5310** may comprise two hooks **5302**, with the openings **5304** created by each of hooks **5302** are facing opposite directions, e.g., a first opening **5304** of first hook **5302** is facing the front side of the link, and the second opening **5304** of the second hook **5302** is facing the rear side of link.

(200) Another link **5330** may comprise a corresponding rod **5332** to which the two hooks are

connected, and which the two hooks are configured to hug within their openings **5304**.

(201) The first connecting operation between such two links may be a 'turn' operation, which comprises link **5330** to be positioned substantially at a 90 degrees angle with respect to link **5310**, as in FIG. **53B**. as illustrated in FIG. **53C**, link **5330** is brought closer to the space created by the two elongated arms of link **5310**, and according to FIG. **53D**, link **5330** as is rod **5332** are turned such to be positioned in parallel to link **5310**. While turning link **5330**, one side of rod **5332** is inserted into the first hook **5302** which faces the front side of link **5310**, while the other side of rod **5332** is inserted into the second hook **5302** which faces the rear side of link **5310**. That is, the turning operation of rod **5332** enables insertion of rod **5332** into the two opposite facing hooks **5302**. Insertion of rod **5332** into its respective opposite facing hooks **5302** creates a first "click" sound.

(202) As illustrated in FIGS. **53E-53G**, once rod **5332** is inserted into the opposite facing hooks **5302**, rod **5332** is first inserted into corresponding hooks **5302** while being positioned along the elongated arm **5311** to the left of protruding step **5312**, to create a first click, i.e., connection sound, indicating a first connection between rod **5332** and hooks **5302**.

(203) As illustrated in FIGS. **53H-53J**, rod **5332** is then pulled into its final position along the elongated arm **5311**, which is past step **5312** and under the curved shaped hook ends, which creates a second "click" sound indicating the final connection between rod **5332** and the curved ends of hooks **5302**.

(204) Step **5312** may prevent easy disconnection of rod **5332** from hooks **5302**, since due to its protruding shape, a user is required to apply force in order to push rod **5332** past step **5312** and away from the curved ends of hooks **5302**.

(205) When the second "click" sound is heard, that means that rod **5332** is safely positioned in its final position, which includes rod **5332** being hugged and surrounded by the curved ends of hooks **5302**.

(206) FIGS. **54A-54F** schematically illustrate a 'push-and-pull' connection between two adjacent links, whereby one of the links comprises two hooks with their elongated arm's opening facing the same direction, according to embodiments of the present disclosure.

(207) FIG. **54A** is an enlarged view of the elongated arms facing the same direction, and FIG. **54B-54C** are top perspective views of the 'pull' operation of one link with respect to another. FIG. **54D** is a side view of two links connected after the push operation. FIG. **54E** is a top perspective view of two links connected after the 'pull' operation and FIG. **54F** is a side view thereof.

(208) Two middle links, whereby each may comprise a rod on one end and two hooks that the openings created at the end of each hook are facing the same direction, e.g., middle links **3100**, **3300**, **3500**, may be connected via a 'push-and-pull' connecting method. Any other links, e.g., a first and middle link, or a middle and end link, whereby one comprises a rod and the other comprises two hooks with their opening facing the same direction may be connected via this same connecting method.

(209) In some embodiments, one link **5410** may comprise two hooks **5402**, with the openings **5404** created by each of hooks **5402** are facing the same direction, e.g., the first and second openings **5404** are both facing the front side of the link, or the rear side of the link.

(210) Another link **5430** may comprise a corresponding rod **5432** to which the two hooks **5402** may be connected, and which the two hooks **5402** are configured to hug within their openings **5404**.

(211) The first connecting operation between such two links may be a 'pull' operation, which comprises rod **5432** of link **5430** to be positioned beneath link **5410**, as in FIG. **54B**. As illustrated in FIG. **54C**, rod **5432** is inserted into both hooks **5402** at once to be positioned to the left of protruding step **5412**, i.e., to be located at the beginning of elongated arms **5411**. That is, the pushing operation of rod **5432** enables insertion of rod **5432** into the two hooks **5402**, which face the same direction. Insertion of rod **5432** into its respective hooks **5402** creates a first "click" sound, indicating such insertion.

(212) As illustrated in FIGS. 54C-54D, once rod 5432 is inserted into the hooks 5402, rod 5432 is first inserted into corresponding hooks 5402 while being positioned along the elongated arm 5411 to the left of protruding step 5412, to create a first click, i.e., connection sound, indicating a first connection between rod 5432 and hooks 5402.

(213) As illustrated in FIGS. 54E-54F, rod 5432 is then pulled into its final position along the elongated arm 5411, which is past step 5412 and under the curved shaped hook ends, which creates a second “click” sound indicating the final connection between rod 5432 and the curved ends of hooks 5402.

(214) Step 5412 may prevent easy disconnection of rod 5432 from hooks 5402, since due to its protruding shape, a user is required to apply force in order to push rod 5432 past step 5412 and away from the curved ends of hooks 5402.

(215) When the second “click” sound is heard, that means that rod 5432 is safely positioned in its final position, which includes rod 5432 being hugged and surrounded by the curved ends of hooks 5402.

(216) FIGS. 55A-55D illustrate another example of two caps, each incorporating an adaptor configured for carrying an accessory, whereby each of the two caps may be connected to a different link, typically adjacent links, such that the two caps, and thereby the two adaptors may be used to carry the same elongated accessory, e.g., an illumination source such as a flash light, though other accessories may be carried by this two part adaptors system. In some embodiments, a first cap 5510 may comprise a U shaped strap 5512, which defines a space between the strap and the body of link 5510 into which part of an accessory may be placed. A second cap 5530 may comprise at least one U shaped strap, e.g., 5532 and 5534, which also defines a space between the strap and the body of link 5530 into which another part of an accessory may be placed. The U-shaped straps may be made of either rigid or flexible material. The exact shape of the strap may be dictated by the accessory that is to be carried by the two caps 5510 and 5530, e.g., flashlight 5550.

(217) FIGS. 56A-56E schematically illustrate a middle link that has smaller dimensions compared to the standard middle link sizes disclosed hereinabove. Typically, the length of middle link 5600 is shorter compared to standard links, which means the distance between rod 5601 and hooks 5611 is smaller compare to other links. Such a smaller middle link 5600 may be used when a length adjustment is required per the entire link-based helmet mounting unit with respect to the external circumference of the helmet to which the link-based helmet mounting unit is connected. Other lengths may be implemented per other middle links, all for the purpose of enabling the proper length adjustment between the link-based helmet mounting unit and the size of the helmet to which it is connected.

(218) FIGS. 57A-57B illustrate another mechanism enabling extraction of a cap from the space created by the elongated arms of the link, according to embodiments of the disclosure. Instead of squeezable wings, e.g., wings 3704, a different release mechanism may be implemented in order to extract the cap out of the link. This release or extraction mechanism may comprise a push button 5710. During insertion of the extractable cap 5700 into the link, push button 5710 may be pushed into the section of the elongated arms of the link, which is left to the step. This section along the elongated arm is kept free for accepting push button 5710 after a rod is positioned in its final location along the elongated arms, i.e., on the right side of the step, under the curved ends of the hook.

(219) During extraction of cap 5700 away from the link, a user pushes push button 5710, which in turn pushes the protruding tooth away from its corresponding indent, thereby allowing release of the protruding tooth from its indent, and thus enable extraction of cap 5700 from its corresponding link. The push button mechanism 5710 may be implemented in any cap comprising any type of integral adaptor.

(220) The corresponding structures, materials, acts, and equivalents of all means or step plus function elements in the claims below are intended to include any structure, material, or act for



performing the function in combination with other claimed elements as specifically claimed. As used herein, the singular forms “a”, “an” and “the” are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms “comprises” and/or “comprising” and/or “having” when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof.

(221) The terminology used herein should not be understood as limiting, unless otherwise specified, and is for the purpose of describing particular embodiments only and is not intended to be limiting of the disclosed subject matter. While certain embodiments of the disclosed subject matter have been illustrated and described, it will be clear that the disclosure is not limited to the embodiments described herein. Numerous modifications, changes, variations, substitutions and equivalents are not precluded.

## Claims

1. A helmet mounting unit comprising a link, said link comprising: a link body; a first end comprising a rod; and a second end comprising at least one hook connected to the link body via an elongated arm, said elongated arm comprising a curved end; wherein said at least one hook is configured to connect onto a rod of another link with the curved end hugging the rod of said another link, thereby enabling connection between the plurality of links to form the helmet mounting unit, wherein the at least one hook comprises a protrusion positioned adjacent to the curved end of the at least one hook, said protrusion configured to prevent easy disconnection of the rod from the at least one hook by partially blocking movement of the rod away from the curved end of the at least one hook; wherein the link comprises an opening within the link body, the opening configured to receive an independent accessory adaptor, said independent accessory adaptor configured for attaching an accessory onto the link via the accessory adaptor, wherein the independent accessory adaptor is an extractable accessory adaptor configured to be inserted into the opening and be extracted from the opening, wherein the extractable accessory adaptor comprises a locking mechanism, the locking mechanism comprising a protruding tooth located on each side of the extractable accessory adaptor, each of the protruding teeth configured to be pushed against a corresponding indent along either side of the link body, wherein, when the extractable accessory adaptor is pushed into the opening within the link body, each protruding tooth is pushed against the protruding teeth corresponding indent to secure the extractable accessory adaptor into the link body.
2. The link of claim 1, wherein the at least one hook comprises two hooks positioned on each side of the second end, wherein each open end of each of the two hooks are positioned towards the same direction or opposite directions.
3. The link of claim 1, wherein the link further comprises an accessory adaptor integral to the link, the accessory adaptor configured for attaching an accessory onto the link via the accessory adaptor.
4. The link of claim 1, wherein each of the protruding teeth is connected to a squeezable wing, the two squeezable wings located on opposite sides of the accessory adaptor, wherein when the squeezable wings are squeezed towards the middle of the extractable accessory adaptor, each protruding tooth is pulled away from its corresponding indent to extract the extractable accessory adaptor from the link body.
5. The link of claim 1, wherein the extractable accessory adaptor is replaceable with other extractable accessory adaptors.
6. A helmet mounting unit for attaching accessories onto a helmet, said helmet mounting unit comprising a plurality of links connected to one another, wherein said plurality of links comprise: a first link comprising: a first link body; a first end comprising a first clip configured to connect the

first link to a first edge of the helmet; and a second end comprising at least one hook connected to the link body via an elongated arm, said elongated arm comprising a curved end; an end link comprising: an end link body; a first end comprising an end clip configured to connect the end link to a second edge of the helmet opposite the first edge; and a second end comprising a rod; a plurality of middle links, wherein each middle link comprises: a link body; a first end comprising a rod; and a second end comprising at least one hook connected to the link body via an elongated arm, said elongated arm comprising a curved end; wherein the first clip is connected to the first edge of the helmet and the at least one hook of the first link is connected onto the rod of the middle link, and wherein the at least one hook of the middle link is connected onto a rod of another middle link via the curved end of the middle link hugging the rod of the other middle link, and so on until a middle link is connected to the end link via the curved end of the middle link hugging the rod of the end link and the end clip is connected to the second edge of the helmet, thereby connecting the plurality of links to one another to form the helmet mounting unit connected onto a circumference of the helmet.

7. The helmet mounting unit of claim 6, wherein the at least one hook of the first and middle links comprises two hooks positioned on each side of the second end of the first and middle links, further wherein each open end of each of the two hooks are positioned towards the same direction or towards opposite directions.

8. The helmet mounting unit of claim 6, wherein the at least one hook of the first and middle links comprises a step along the elongated arm, the step configured to prevent easy disconnection of the rod of a connected link from the at least one hook by partially blocking movement of the rod away from the curved end of the at least one hook.

9. The helmet mounting unit of claim 6, wherein the first and/or middle link further comprise an accessory adaptor integrated as part of the first and/or middle link, the accessory adaptor configured for attaching an accessory onto the first and/or middle link via the accessory adaptor.

10. The helmet mounting unit of claim 6, wherein the first and/or middle link comprises an opening within the first and/or middle link body, the opening configured to receive an independent accessory adaptor, said independent accessory adaptor configured for attaching an accessory onto the first and/or middle link via the accessory adaptor.

11. The helmet mounting unit of claim 10, wherein the independent accessory adaptor is an extractable accessory adaptor configured to be inserted into the opening of the first and/or middle link and be extracted from the opening.

12. The helmet mounting unit of claim 11, wherein the extractable accessory adaptor comprises a locking mechanism, the locking mechanism comprising a protruding tooth located on each side of the extractable accessory adaptor, each of the protruding teeth configured to be pushed against a corresponding indent along either side of the link body of the first and/or middle link, wherein, when the extractable accessory adaptor is pushed into the opening within the first and/or middle link body, each protruding tooth is pushed against its corresponding indent to secure the extractable accessory adaptor into the link body of the first and/or middle link.

13. The helmet mounting unit of claim 12, wherein each of the protruding teeth is connected to a squeezable wing, the two squeezable wings located on opposite sides of the accessory adaptor, wherein when the squeezable wings are squeezed towards the middle of the extractable accessory adaptor, each protruding tooth is pulled away from its corresponding indent to extract the extractable accessory adaptor from the link body of the first and/or middle link.

14. The helmet mounting unit of claim 6, wherein the first and/or middle link comprises an opening within the link body, the opening configured to receive an extractable cover configured to cover the opening.

15. The helmet mounting unit of claim 6, wherein the end link further comprises a tightening mechanism configured to pull the connected links towards the end link and pull the rod of the end link body towards the end clip to thereby tighten the plurality of links onto the external

circumference of the helmet between the first and second edges of the helmet.

16. The helmet mounting unit of claim 15, wherein the tightening mechanism comprises a rotatable dial, wherein when the dial is turned in a first direction, the end link body is pulled towards the end clip, which in turn pulls the connected middle and first link towards the end clip, thereby tightening the plurality of links onto the external circumference of the helmet between the first and second edges of the helmet, and wherein the dial is turned in a second opposite direction, the end link body is pushed away from the end clip to thereby untighten the plurality of links and distant them from the external circumference of the helmet.

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