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Minn et al.

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(54) **ADJUSTABLE PORTABLE DEVICE HOLDER**

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(51) **Int. Cl.**
B60R 11/00 (2006.01)
B60R 11/02 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***B60R 11/02*** (2013.01); ***B60R 11/0241*** (2013.01); ***F16B 2/065*** (2013.01); ***F16M 11/041*** (2013.01); ***F16M 11/105*** (2013.01); ***F16M 13/00*** (2013.01); ***F16M 13/022*** (2013.01); *B60R 11/0258* (2013.01); *B60R 2011/0008* (2013.01);
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CPC B60R 7/06; B60R 2011/0005; B60R 2011/0008; B60R 11/0241; B60R 11/0258; B60R 2011/0294; B60R 2011/0059; B60R 2011/0071; B60R 2011/0085; B60R 11/02; Y10S 224/929
USPC 224/483, 556, 275, 929, 544, 276; D12/415, 419–420
See application file for complete search history.

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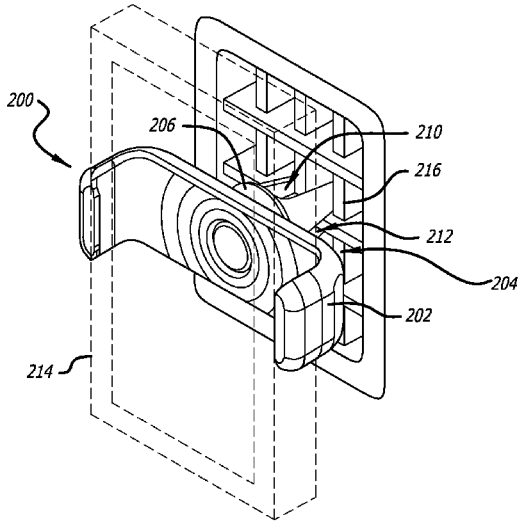
(57) **ABSTRACT**

Adjustable portable device holder systems and methods are herein disclosed. According to one embodiment, an adjustable portable device holder includes an adjustable clamping element and a rotatable mounting element attached to the adjustable clamping element for removably securing a portable device to the adjustable portable device holder.

19 Claims, 5 Drawing Sheets



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continuation-in-part of application No. 29/437,793, filed on Nov. 20, 2012, now Pat. No. Des. 690,707.

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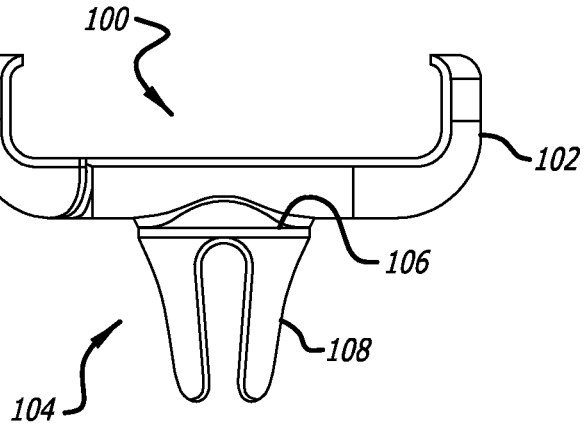

FIG. 1

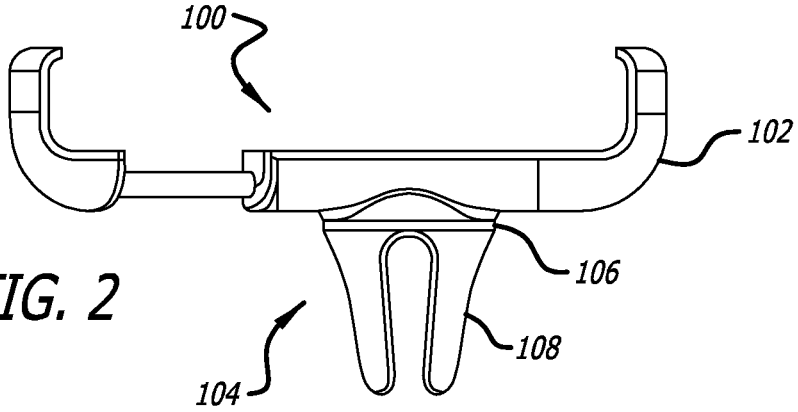

FIG. 2

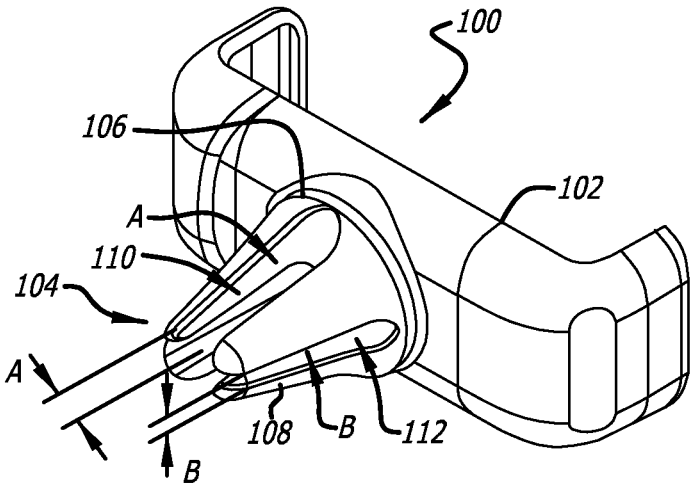

FIG. 3

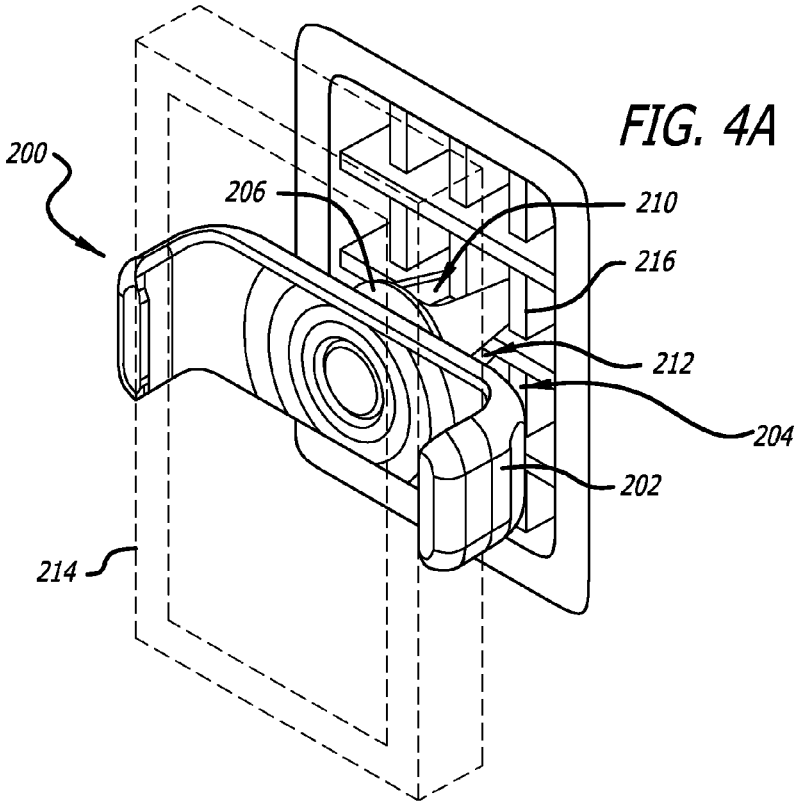

FIG. 4A

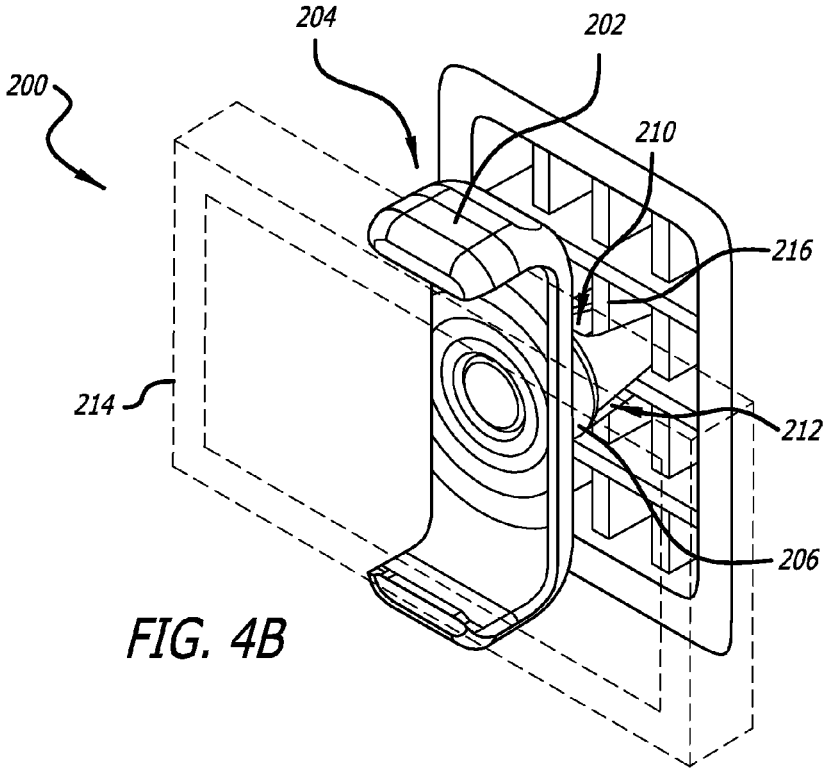

FIG. 4B

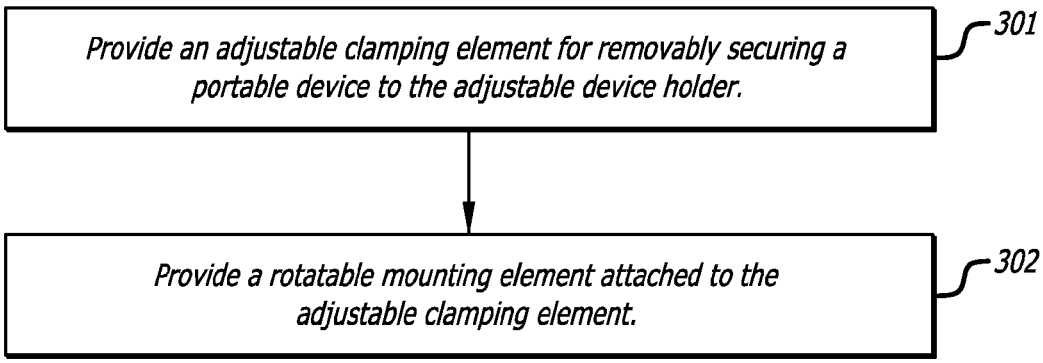
Provide an adjustable clamping element for removably securing a portable device to the adjustable device holder.
301
Provide a rotatable mounting element attached to the adjustable clamping element.
302

FIG. 5

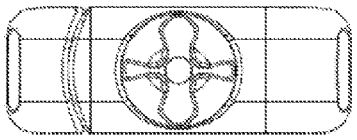

FIG. 6

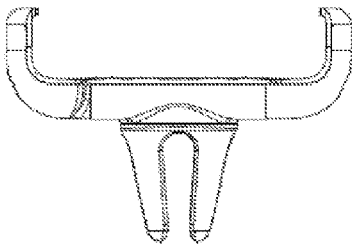

FIG. 7

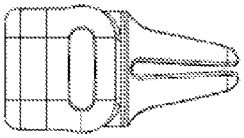

FIG. 8

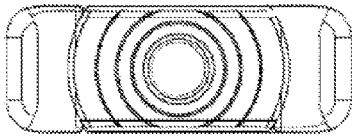

FIG. 9

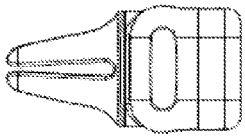

FIG. 10

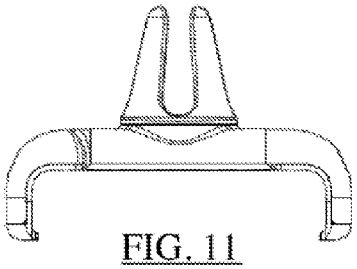

FIG. 11

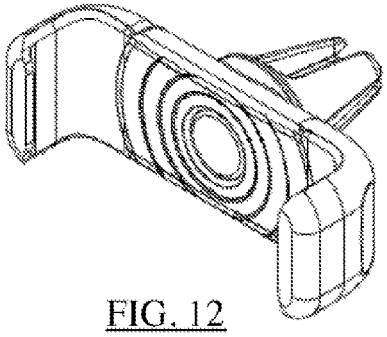

FIG. 12

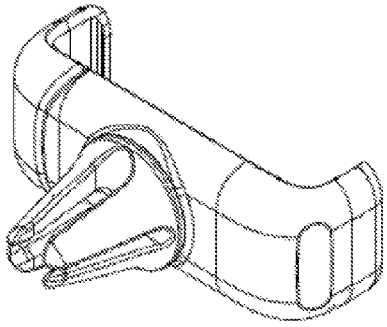

FIG. 13

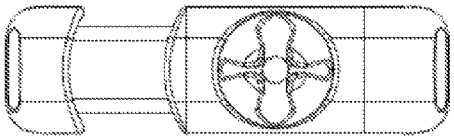

FIG. 14

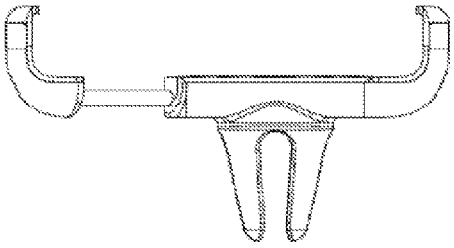

FIG. 15

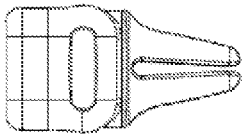

FIG. 16

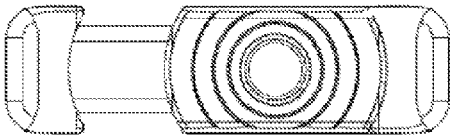

FIG. 17

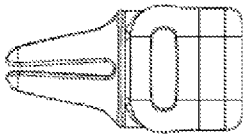

FIG. 18

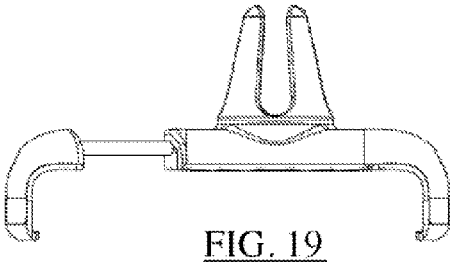

FIG. 19

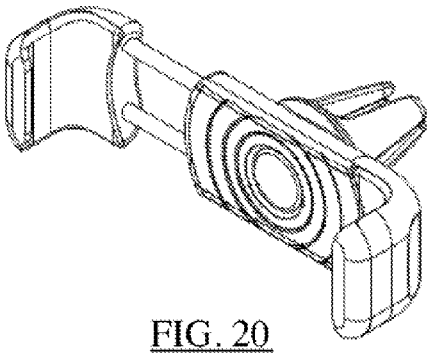

FIG. 20

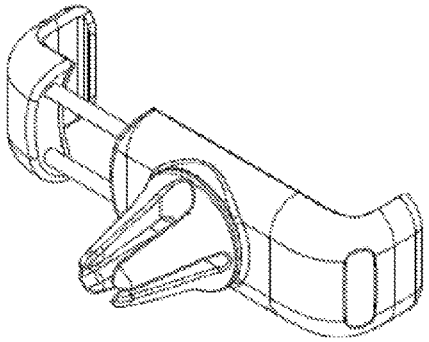

FIG. 21

ADJUSTABLE PORTABLE DEVICE HOLDER

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a Continuation application of U.S. application Ser. No. 13/897,062, entitled "Adjustable portable device holder", which was filed May 17, 2013 and is a continuation-in-part (CIP) of U.S. Design patent application Ser. No. 29/437,793, filed Nov. 20, 2012 and titled DASHBOARD VENT MOUNT FOR AN ELECTRONIC DEVICE, each of which are incorporated by reference in their entirety, for all purposes, herein.

FIELD OF TECHNOLOGY

The present application is directed to adjustable portable device holder systems and methods.

BACKGROUND

Various electronic and other device mounts are known in the art. Available device mounts have many drawbacks. For instance, suction cup mounts are typically large, bulky and require a large mounting surface such as a windshield. Device mounts often fail to properly and consistently attach to the mounting surface. Some device mounting solutions require adhesive to secure the mount to a vehicle dash, wearing off over time and leaving an undesirable residue on the mounting surface. Current device mounts also fail to effectively accommodate a broad range of devices or mounting surfaces.

Due to the deficiencies in the currently available device mounts, people choose not use electronic device mounts and often violate state and provincial hands-free driving laws. Other state and provincial laws prohibit objects mounted to the windshield to prevent obstruction of the driver's view.

This specification is directed to improved portable device holder systems and methods for manufacturing the same.

SUMMARY

Adjustable portable device holder systems and methods for manufacturing the same are herein disclosed. According to one embodiment, an adjustable portable device holder includes an adjustable clamping element and a rotatable mounting element attached to the adjustable clamping element for removably securing a portable device to the adjustable portable device holder. The adjustable clamping element is capable of being biased into an activated state and unbiased into a deactivated state to secure one of a plurality of different size portable devices to the adjustable portable device holder. The rotatable mounting element, attached to the adjustable clamping element, includes a plurality of mounting arms each spaced a specified distance apart from one another and extending at a specified angle from a bottom surface of the rotatable mounting element. Each pair of the plurality of mounting arms forms a mounting slot therein between. The rotatable mounting element is capable of being rotated to position a first mounting slot in a vertical, horizontal or diagonal orientation and a second mounting slot in a vertical, horizontal or diagonal orientation to engage a first mounting surface in a vertical, horizontal or diagonal orientation or a second mounting surface in a vertical, horizontal or diagonal orientation.

In another embodiment, a process for manufacturing an exemplary adjustable portable device holder is disclosed. The process includes providing an adjustable clamping element capable of being biased into an activated state and unbiased into a deactivated state to secure one of a plurality of portable device sizes to the adjustable portable device holder. The process also includes providing a rotatable mounting element comprising a plurality of mounting arms each spaced a specified distance apart from one another and extending at a specified angle from a bottom surface of the rotatable mounting element. Each pair of the plurality of mounting arms form a mounting slot therein between. The rotatable mounting element is capable of being rotated to position a first mounting slot in a vertical, horizontal or diagonal orientation and a second mounting slot in a vertical, horizontal or diagonal orientation to engage a first mounting surface in a vertical, horizontal or diagonal orientation or a second mounting surface in a vertical, horizontal or diagonal orientation. The process also includes attaching the rotatable mounting element to the adjustable clamping element.

The foregoing and other objects, features and advantages of the present disclosure will become more readily apparent from the following detailed description of exemplary embodiments as disclosed herein.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the present application are described, by way of example only, with reference to the attached Figures, wherein:

FIG. **1** illustrates an adjustable portable device holder in a retracted setting, also referred to as the deactivated state, according to one embodiment;

FIG. **2** illustrates an adjustable portable device holder in an expanded setting, also referred to as the activated state, according to one embodiment;

FIG. **3** illustrates an adjustable portable device holder in a retracted setting according to one embodiment;

FIGS. **4**A and **4**B illustrate an adjustable portable device holder attached to a device and a mounting surface according to one embodiment;

FIG. **5** illustrates a flow chart of a process for manufacturing an exemplary adjustable portable device holder according to one embodiment;

FIG. **6** is an elevation view of the back of an adjustable portable device holder in a retracted setting;

FIG. **7** is a plan view of the top of an adjustable portable device holder in a retracted setting;

FIG. **8** is an elevation view of left side of an adjustable portable device holder in a retracted setting;

FIG. **9** is an elevation view of the front of an adjustable portable device holder in a retracted setting;

FIG. **10** is an elevation view of the right side of an adjustable portable device holder in a retracted setting;

FIG. **11** is a plan view of the bottom of an adjustable portable device holder in a retracted setting;

FIG. **12** is an isometric view, from the front right, of an adjustable portable device holder in a retracted setting;

FIG. **13** is an isometric view, from the back left, of an adjustable portable device holder in a retracted setting;

FIG. **14** is an elevation view of the back of an adjustable portable device holder in an expanded setting;

FIG. **15** is a plan view of the top of an adjustable portable device holder in an expanded setting;

FIG. **16** is an elevation view of left side of an adjustable portable device holder in an expanded setting;

FIG. **17** is an elevation view of the front of an adjustable portable device holder in an expanded setting;

FIG. **18** is an elevation view of the right side of an adjustable portable device holder in an expanded setting;

FIG. **19** is a plan view of the bottom of an adjustable portable device holder in an expanded setting;

FIG. **20** is an isometric view, from the front right, of an adjustable portable device holder in an expanded setting; and

FIG. **21** is an isometric view, from the back left, of an adjustable portable device holder in an expanded setting.

DETAILED DESCRIPTION

It will be appreciated that for simplicity and clarity of illustration, where considered appropriate, reference numerals may be repeated among the figures to indicate corresponding or analogous elements. In addition, numerous specific details are set forth in order to provide a thorough understanding of the example embodiments described herein. However, it will be understood by those of ordinary skill in the art that the example embodiments described herein may be practiced without these specific details. In other instances, methods, procedures and components have not been described in detail so as not to obscure the embodiments described herein.

The adjustable portable device holders described in this specification can include an adjustable clamping element attached to a rotatable mounting element. The adjustable portable device holder can be used to attach and mount a portable device to a mounting surface. The portable device can be any device that fits into the adjustable clamping element including, but not limited to a smartphone or other phone, a tablet, an e-reader, a powerbank, a speaker, a multimedia player, a flashlight or other light, a television or other display, a laser or radar detector, an air freshener, a fan, a beverage or other device that can fit into the adjustable clamping element. The adjustable portable device holder can be mounted to various mounting surfaces including, but not limited to an automobile air conditioner vent blade, an automobile dashboard, an automobile sun visor, a credit card, the brim of a hat, a counter, a tripod, a bicycle, a backpack, a utensil, a ledge or other surface.

FIG. **1** illustrates an adjustable portable device holder **100** in a retracted setting according to one embodiment. The adjustable portable device holder **100** includes an adjustable clamping element **102** attached to a rotatable mounting element **104**.

FIG. **2** illustrates an adjustable portable device holder **100** in an expanded setting according to one embodiment. The adjustable portable device holder **100** includes an adjustable clamping element **102** attached to a rotatable mounting element **104**.

FIG. **3** illustrates an adjustable portable device holder **100** in a retracted setting according to one embodiment. The adjustable portable device holder **100** includes an adjustable clamping element **102** attached to a rotatable mounting element **104**.

The adjustable clamping element **102** illustrated in FIGS. **1-3** can be expanded and retracted to attach devices of different sizes to the adjustable portable device holder **100**. A force can be applied to expand or bias the adjustable clamping element **102** into an activated state (shown in FIG. **2**) and the force can be released to retract the adjustable clamping element **102** into a deactivated state (shown in FIGS. **1** and **3**). An elastic retracting or biasing element (not shown), such as a compression or torsion spring can be incorporated into the adjustable clamping element **102**. The compression or torsion spring facilitates the expansion and retraction of the adjustable clamping element **102** upon applying or releasing an expansive force on a surface of the adjustable clamping element **102**.

The adjustable clamping element **102** can also include a gripping material on a surface of the adjustable clamping element **102** to provide a better grip, a better viewing angle or better attachment to a device secured within the adjustable clamping element **102**. The gripping material can be applied to a portion of the adjustable clamping element **102** or the entire adjustable clamping element **102** can be made of the gripping material. The gripping material can be any material that increases the adhesion, grip or coefficient of friction between the gripping surface of the adjustable clamping element **102** and a surface of a device secured within the adjustable clamping element **102**. The gripping material can include, but is not limited to rubber, polymeric material or other plastic, metal, alloy, fabric, composite material or other material capable of increasing the adhesion, grip or coefficient of friction between the gripping surface of the adjustable clamping element **102** and a surface of a device secured within the adjustable clamping element **102**. The gripping material and gripping surface can be textured and composed of the same or different material.

The rotatable mounting element **104** illustrated in FIGS. **1-3** can be directly or indirectly attached to the adjustable clamping element **102**. The adjustable clamping element **102** and the rotatable mounting element **104** can be one integral part or component parts that are attached together by any attaching means that allows the rotatable mounting element **104** to rotate. The rotatable mounting element **104** includes a base plate **106** and a plurality of mounting arms **108** extending from the base plate **106**. The base plate **106** and the plurality of mounting arms **108** can be one integral part or component parts that are attached together by any attaching means.

Referring to FIG. **3**, the base plate **106** can be a cylindrically shaped disc or other element that is capable of being rotated 360 degrees clockwise or counter-clockwise. The base plate **106** provides a rotating platform from which mounting arms **108** extend. The mounting arms **108** are spaced a specified distance apart relative to one another on the base plate **106**. The mounting arms **108** also extend from the base plate **106** at a specified angle relative to the base plate **106**. The size of the mounting arms **108**, the distance between the mounting arms **108** and the angle at which the mounting arms **108** extend from the base plate **106** establish and define mounting slots **110**, **112** between pairs of mounting arms **108**. The rotatable mounting element **104** can include any number of mounting arms **108** and any number of mounting slots **110**, **112**.

The mounting arms **108** can also include a gripping material on a surface of the mounting arms **108** to provide a better grip, a better viewing angle or better attachment to a mounting surface secured between the mounting arms **108**. The gripping material can be applied to a portion of mounting arms **108** or the entirety of the mounting arms **108** can be made of the gripping material. The gripping material can be any material that increases the adhesion, grip or coefficient of friction between the gripping surface of mounting arms **108** and a mounting surface secured between the mounting arms **108**. The gripping material can include, but is not limited to rubber, polymeric material or other plastic, metal, alloy, fabric, composite material or other material capable of increasing the adhesion, grip or coefficient of friction between the gripping surface of mounting arms **108** and a mounting surface secured between the mounting arms

108. The gripping material and gripping surface can be textured and composed of the same or different material.

In one exemplary embodiment, the rotatable mounting element **104** includes four mounting arms and four mounting slots. In another exemplary embodiment, the rotating mounting element **104** includes 6 mounting arms and six mounting slots.

The mounting arms **108** and mounting slots **110**, **112**, can engage a mounting surface (not shown) to mount the adjustable portable device holder **100**. The adjustable portable device holder **100** is mounted to a mounting surface by positioning, press fitting or wedging a mounting surface within one or more mounting slots **110**, **112** to engage two or more mounting arms **108**. The adjustable portable device holder **100** can be mounted to various mounting surfaces including, but not limited to an automobile air conditioner vent blade, an automobile dashboard, an automobile sun visor, a credit card, the brim of a hat, a counter, a tripod, a bicycle, a backpack, a utensil, a ledge or other surface that can be positioned, press fit or wedged within one or more mounting slots **110**, **112** between two or more mounting arms **108**.

The rotatable mounting element **104** can include any number of mounting arms **108** forming and defining any number of mounting slots **110**, **112**. As may be appreciated in at least FIGS. **1-3**, **7**, **8**, **10**, **11**, **15**, **16**, **18** and **19**, the size and shape of the mounting slots **110**, **112** formed between pairs of mounting arms **108** can be controlled by adjusting the size and shape of the paired mounting arms **108**, the distance between the pair of mounting arms **108** and the angle at which the two mounting arms **108** extend from the base plate **106** and converge toward one another. As depicted, each mounting arm **108** and mounting slot **110**, **112** tapers in a direction away from a bottom surface of the rotatable mounting element **104**. The rotatable mounting element **104** can include one or more different size mounting slots **110**, **112** to accommodate different size mounting surfaces. For instance in FIG. **3**, one mounting slot **110** having clearance A can be larger than another mounting slot **112** having clearance B. One or more of the mounting slots **110** formed on the rotatable mounting element **104** can accommodate a larger mounting surface than other mounting slots **112** formed on the rotatable mounting element **104**.

The rotatable mounting element **104** can be rotated to position the mounting arms **108** and mounting slots **110**, **112** in a horizontal plane, vertical plane, diagonal plane, circular plane, concave plane, convex plane or any plane between vertical and horizontal planes relative to the force of gravity. The mounting arms **108** and mounting slots **110**, **112** can be positioned to engage a mounting surface in any engagement plane within the 360 degree rotation of the mounting element **104**. The rotatable mounting element **104** can be rotated to position a relatively larger mounting slot **110** with clearance A in a horizontal, vertical, diagonal, circular, concave or convex plane to engage a relatively larger mounting surface in a horizontal, vertical, diagonal, circular, concave or convex engagement plane. The rotatable mounting element **104** can also be rotated to position a relatively smaller mounting slot **112** with clearance B in a horizontal, vertical, diagonal, circular, concave or convex plane to engage a relatively smaller mounting surface in a horizontal, vertical, diagonal, circular, concave or convex engagement plane.

The rotatable mounting element is capable of being rotated 360 degrees clockwise or counter-clockwise to engage different size mounting surfaces in a horizontal plane, vertical plane, diagonal plane, circular plane, concave plane, convex plane or any plane between vertical and horizontal planes. A device attached to the adjustable portable device holder **100** via the adjustable clamping element **102** can also be rotated 360 degrees clockwise or counter-clockwise while it is attached to the adjustable portable device holder **100** by rotating the rotatable mounting element **104**.

FIGS. **4**A and **4**B illustrate an adjustable portable device holder **200** attached to a device **214** and a mounting surface **216** according to one embodiment. The device **214** is a smart phone and the mounting surface **216** is an automobile air conditioner vent blade.

Other portable devices can also fit into the adjustable clamping element including, but not limited to a tablet, an e-reader, a powerbank, a speaker, a multimedia player, a flashlight or other light, a television or other display, a laser or radar detector, an air freshener, a fan, a beverage or other device. The adjustable portable device holder **200** can also be mounted to other mounting surfaces including, but not limited to an automobile dashboard, an automobile sun visor, a credit card, the brim of a hat, a counter, a tripod, a bicycle, a backpack, a utensil, a ledge or other surface.

The adjustable portable device holder **200** includes an adjustable clamping element **202** attached to a rotatable mounting element **204**. The adjustable clamping element **202** can be expanded and retracted to attach different size smartphones to the adjustable portable device holder **200**. A force can be applied to expand or bias the adjustable clamping element **202** into an activated state and the force can be released to retract the adjustable clamping element **202** into a deactivated state to clamp around the smartphone **214**. An elastic retracting or biasing element (not shown), such as a compression or torsion spring can be incorporated into the adjustable clamping element **202** to facilitate the expansion and retraction of the adjustable clamping element **202** and to accommodate different size smartphones.

The adjustable clamping element **202** can also include a gripping material on a surface of the adjustable clamping element **202** to provide a better grip, a better viewing angle or better attachment to the smart phone **214** or other device secured within the adjustable clamping element **202**. The gripping material can be applied to a portion of the adjustable clamping element **202** or the entire adjustable clamping element **202** can be made of the gripping material. The gripping material can be any material that increases the adhesion, grip or coefficient of friction between the gripping surface of the adjustable clamping element **202** and a surface of a device secured within the adjustable clamping element **202**. The gripping material can include, but is not limited to rubber, polymeric material or other plastic, metal, alloy, fabric, composite material or other material capable of increasing the adhesion, grip or coefficient of friction between the gripping surface of the adjustable clamping element **202** and a surface of a device secured within the adjustable clamping element **202**. The gripping material and gripping surface can be textured and composed of the same or different material.

The rotatable mounting element **204** can be directly or indirectly attached to the adjustable clamping element **202**. The adjustable clamping element **202** and the rotatable mounting element **204** can be one integral part or component parts that are attached together by any attaching means, such as a screw, ratchet, pin, rod or friction or other device that allows the rotatable mounting element **204** to rotate. The rotatable mounting element **204** includes a base plate **206** and a plurality of mounting arms **208** extending from the base plate **206**. The base plate **206** and the plurality of

mounting arms **208** can be one integral part or component parts that are attached together by any attaching means.

The base plate **206** can be a cylindrically shaped disc or other element that is capable of being rotated 360 degrees clockwise or counter-clockwise. The base plate **206** provides a rotating platform from which the mounting arms **208** extend. The mounting arms **208** are spaced a specified distance apart relative to one another on the base plate **206**. The mounting arms **208** also extend from the base plate **206** at a specified angle relative to the base plate **206**. The size of the mounting arms **208**, the distance between the mounting arms **208** and the angle at which the mounting arms **208** extend from the base plate **206** establish and define mounting slots **210**, **212** between pairs of mounting arms **208**. The rotatable mounting element **204** includes four mounting arms **208** and four mounting slots **210**, **212**.

The mounting arms **208** and mounting slots **210**, **212**, can engage and attach to an air conditioner vent blade **216** to mount the adjustable portable device holder **200**. The adjustable portable device holder **200** is mounted to the air conditioner vent blade **216** by positioning, press fitting or wedging a surface of the air conditioner vent blade **216** within one or more mounting slots **210**, **212** to engage two or more mounting arms **208**.

The mounting arms **208** can also include a gripping material on a surface of the mounting arms **208** to provide a better grip, a better viewing angle or better attachment to the air conditioner vent blade **216** secured between mounting arms **208**. The gripping material can be applied to a portion of mounting arms **208** or the entirety of the mounting arms **208** can be made of the gripping material. The gripping material can be any material that increases the adhesion, grip or coefficient of friction between the gripping surface of mounting arms **208** and an air conditioner vent blade **216** secured between the mounting arms **208**. The gripping material can include, but is not limited to rubber, polymeric material or other plastic, metal, alloy, fabric, composite material or other material capable of increasing the adhesion, grip or coefficient of friction between the gripping surface of mounting arms **208** and the air conditioner vent blade **216** secured between the mounting arms **208**. The gripping material can be and gripping surface and composed of the same or different material.

The rotatable mounting element **204** includes two different sizes of mounting slots **210**, **212** to accommodate different size air conditioner vent blades **216** or other mounting surfaces. Two mounting slots **210** having clearance A are larger than the other two mounting slots **212** having clearance B.

The rotatable mounting element **204** can be rotated to position the mounting arms **208** and mounting slots **210**, **212** in a horizontal, vertical, diagonal, circular, concave, convex or any plane between vertical and horizontal planes to engage air conditioner vent blades **216** oriented in a horizontal, vertical, diagonal, circular, concave, convex or any plane between vertical and horizontal planes. The mounting arms **208** and mounting slots **210**, **212** can be positioned to attach to an air conditioner vent blade in any engagement plane within the 360 degree rotation of the mounting element **204**. The rotatable mounting element **204** can be rotated to position the larger mounting slots **210** with clearance A in a horizontal, vertical, diagonal, circular, concave, convex or any plane between vertical and horizontal planes to engage or attach to larger air conditioner vent blades **216** oriented in a horizontal, vertical, diagonal, circular, concave, convex or any plane between vertical and horizontal planes. The rotatable mounting element **204** can also be rotated to position the smaller mounting slots **212** with clearance B in a horizontal, vertical, diagonal, circular, concave, convex or any plane between vertical and horizontal planes to engage or attach to smaller air conditioner vent blades **216** oriented in a horizontal, vertical, diagonal, circular, concave, convex or any plane between vertical and horizontal planes.

The rotatable mounting element **204** is capable of being rotated 360 degrees clockwise or counter-clockwise to engage different size mounting surfaces in a horizontal, vertical, diagonal, circular, concave, convex or any plane between vertical and horizontal planes relative to the force of gravity. The smart phone **214** attached to the adjustable portable device holder **200** can be rotated into a portrait orientation (shown in FIG. **4**A) and a landscape orientation (shown in FIG. **4**B) by rotating the rotatable mounting element **204**. The smart phone **214** attached to the adjustable portable device holder **200** can be rotated 360 degrees clockwise or counter-clockwise while it is attached to the adjustable portable device holder **200** by rotating the smart phone **214** and adjustable clamping element **202**, while the rotatable mounting element **204** is secured to a mounting surface.

FIG. **5** illustrates a flow chart of a process for manufacturing an exemplary adjustable portable device holder according to one embodiment. At step **301**, the process includes providing an adjustable clamping element for removably securing a portable device to the adjustable portable device holder. The adjustable clamping element is capable of being biased into an activated state and unbiased into a deactivated state to secure one of a plurality of different size portable device to the adjustable portable device holder.

As an example and as depicted in FIGS. **2**, **14**, **15**, **16** and **19-21**, to manufacture the adjustable portable device holder, two stainless steel rods can be inserted into an expandable arm cavity of a double injection mold. PC/ABS is injected into the cavities of the mold to hold the rods in place and to produce an expandable arm, main body and cover of an adjustable clamping element. The mold is then rotated and injected with TPE to form side grips of the expandable arm and body of the adjustable clamping element. A stainless steel spring is inserted over each rod and held in place by a stainless steel screw affixed to the end of the rods. Grease is added to the lower portion of the spring and rods (near the screw head). The expandable arm is inserted into the body and the springs are lowered and held in place within the body of the adjustable clamping element. The cover is then slid on to the body to hold the adjustable arm in place.

The adjustable clamping element or a surface thereof can also be formed from rubber, polymeric material or other plastic, metal, alloy, or composite material that is rigid, semi-rigid or textured.

At step **302**, a rotatable mounting element is provided, which can be attached to the adjustable clamping element via screw, ratchet, pin, rod or friction or other attachment means. The rotatable mounting element includes a plurality of mounting arms each spaced a specified distance apart from one another and extending at a specified angle from a bottom surface of the rotatable mounting element. Each pair of the plurality of mounting arms form a mounting slot therein between. The rotatable mounting element is capable of being rotated to position a first mounting slot in a vertical, horizontal or diagonal orientation and a second mounting slot in a vertical, horizontal or diagonal orientation to engage a first mounting surface in a vertical, horizontal or diagonal

orientation or a second mounting surface in a vertical, horizontal or diagonal orientation.

For example, a rotatable mounting element can be formed in whole or part from stainless metal or other metal, alloy or plastic sheet stamped to form a clip or base plate with four arms extending from the base plate, spaced a specified distance apart and bent to a desired angle. If metal or other heat treatable material, the rotatable mounting element can be heat treated to form a rigid structure. The rotatable mounting element or a surface thereof can also be formed from rubber, polymeric material or other plastic, metal, alloy, or composite material that is rigid, semi-rigid or textured.

A zinc-alloy nut or other alloy or material can be formed using a die-cast mold to attach the rotatable mounting element to the adjustable clamping element. Glue is added to the cavity of the nut. The rotatable mounting element is affixed to the main body of the adjustable clamping element via the nut and a second stainless screw. A force gage is used to monitor the rotational force of the rotatable mounting element and the rotatable mounting element is adjusted if screw is too tight or loose.

TPE is injected into a mold to create a skirt and four socks. The skirt and four socks can also be formed from rubber, polymeric material or other plastic, metal, alloy, or composite material that is rigid, semi-rigid or textured. The skirt is assembled over the mounting arms of the rotatable mounting element. Glue is added to each mounting arm of the rotatable mounting element. A sock is inserted over each mounting arm, which holds the skirt in place.

Example embodiments have been described hereinabove regarding adjustable portable device holder systems and methods. Various modifications to and departures from the disclosed example embodiments will occur to those having ordinary skill in the art. The subject matter that is intended to be within the spirit of this disclosure is set forth in the following claims.

What is claimed is:

1. A portable device holder comprising:

an adjustable clamping element comprising a pair of opposing side grips, the adjustable clamping element being adjustable between activated and deactivated states by linearly translating at least one of the side grips to removably secure one of a plurality of different sized portable devices to the adjustable clamping element;

a mounting element including a rotatable base plate having a first side and a second side opposite the first side, the first side of the rotatable base plate flush with and rotatably attached to a main body of the adjustable clamping element, the rotatable base plate providing a rotating platform that enables the mounting element to be rotated at least one of clockwise or counter-clockwise relative to the adjustable clamping element; and

the mounting element also including four mounting arms extending from the second side of the base plate and spaced apart from and converging towards one another to define at least two different sized mounting slots when the four mounting arms are not engaged with any mounting surface;

wherein the at least two different sized mounting slots accommodate engagement with at least two different sized mounting surfaces; and

wherein the at least two different sized mounting slots are rotatable relative to the adjustable clamping element by rotating the base plate relative to the main body of the adjustable clamping element, thereby enabling the portable device holder to hold and mount one of a plurality of different sized portable devices to at least two different sized mounting surfaces in multiple different orientations.

2. The portable device holder of claim **1**,

wherein a width of each of the mounting slots tapers away from the bottom surface of the mounting element; and

wherein the mounting element is capable of releasably setting each of the mounting slots in two 180 degree spaced apart vertical orientations and two 180 degree spaced apart horizontal orientations for alternative engagement with vertically and horizontally oriented mounting surfaces.

3. The portable device holder of claim **2**, wherein at least one of the at least two different sized mounting surfaces that the mounting slots are configured to engage comprises an air conditioner vent blade in an automobile.

4. The portable device holder of claim **1**, wherein the mounting arms comprise a gripping surface constructed from rubber, polymeric material, plastic, metal, alloy or composite material.

5. The portable device holder of claim **1**, wherein the mounting element is operable to be rotated 360 degrees.

6. The portable device holder of claim **1**, wherein the mounting element is attached with a fastener to the adjustable clamping element.

7. The portable device holder of claim **6**, wherein the fastener includes a ratchet device, a screw, or a pin.

8. The portable device holder of claim **1**, wherein the mounting element is friction fit to the adjustable clamping element.

9. The portable device holder of claim **1**, wherein the mounting slot is operable to be rotated to a vertical, horizontal or diagonal arrangement.

10. The portable device holder of claim **1**, wherein the four mounting arms and the rotatable base plate of the mounting element are integrally formed with each other.

11. The portable device holder of claim **1**, wherein:

the mounting element comprises a metal or alloy sheet stamped to form the base plate with the four mounting arms extending therefrom; and

the four mounting arms extending from the base plate are bent relative to the base plate so that the four mounting arms extend from the second side of the base plate and converge towards one another; and

four molded socks are inserted one over each of the four mounting arms, each said molded sock molded from at least one of rubber, polymeric material or plastic.

12. The portable device holder of claim **1**, wherein:

the adjustable clamping element further comprises a rod and a spring inserted over the rod; and

an expandable arm of the adjustable clamping element is translatable, along the rod, relative to the main body of the adjustable clamping element.

13. A portable device holder comprising:

an adjustable clamping element comprising a pair of opposing side grips, the adjustable clamping element being adjustable between activated and deactivated states by linearly translating at least one of the side grips to removably secure one of a plurality of different sized portable devices to the adjustable clamping element;

a mounting element including a rotatable base plate having a first side and a second side opposite the first side, the first side of the rotatable base plate flush with and rotatably attached to a main body of the adjustable clamping element, the rotatable base plate providing a

rotating platform that enables the mounting element to be rotated at least one of clockwise or counter-clockwise relative to the adjustable clamping element;

the mounting element also including first and second mounting arms extending from the second side of the base plate and spaced apart from one another and defining a mounting slot configured to accommodate engagement with a mounting surface;

wherein the mounting slot is rotatable relative to the adjustable clamping element by rotating the base plate relative to the main body of the adjustable clamping element;

wherein the adjustable clamping element comprising one or more bias members operable to urge the adjustable clamping element between the activated and deactivated states to securely engage with the one of the plurality of different sized portable devices;

wherein the one or more bias elements is/are in communication with a corresponding rod of the adjustable clamping element, and an expandable portion of the adjustable clamping element is translatable along the corresponding rod;

wherein the one or more bias elements comprise one or more compression or torsion springs; and

wherein a fastener secures each of the one or more compression or torsion springs to the corresponding rod.

14. The portable device holder of claim **13**, wherein the one or more bias elements is/are operable to receive an applied force that causes the adjustable clamping element to expand between the activated and deactivated states.

15. The portable device holder of claim **13**, wherein:

the mounting element comprises a metal or alloy sheet stamped to form the base plate with the first and second mounting arms extending therefrom; and

the first and second mounting arms extending from the base plate are bent relative to the base plate so that the first and second mounting arms extend from the second side of the base plate and converge towards one another;

wherein the mounting arms also comprise a gripping surface constructed from rubber, polymeric material or plastic.

16. A portable device holder comprising:

an adjustable clamping element comprising a pair of opposing side grips, the adjustable clamping element being adjustable between activated and deactivated states by linearly translating at least one of the side grips to removably secure one of a plurality of different sized portable devices to the adjustable clamping element;

a mounting element including a rotatable base plate having a first side and a second side opposite the first side, the first side of the rotatable base plate flush with and rotatably attached to a main body of the adjustable clamping element; and

the mounting element including a plurality of mounting arms extending away from the second side of the base plate and spaced apart and converging toward one another to form at least a first mounting slot and a second mounting slot;

wherein the first mounting slot has a first clearance when not engaged with any mounting surface, and the second mounting slot has a second clearance when not engaged with any mounting surface;

wherein the first clearance is larger than the second clearance, and thereby, the first mounting slot is configured to accommodate a larger mounting surface than the second mounting slot is configured to accommodate; and

wherein the first and second mounting slots are rotatable relative to the adjustable clamping element to a plurality of arrangements, including lateral, vertical and diagonal arrangements, by rotating the base plate relative to the main body of the adjustable clamping element.

17. A portable device holder comprising:

an adjustable clamping element configured to be expanded and retracted to attach one of a plurality of different sized portable devices to the adjustable portable device holder; and

a rotatable mounting element attached to and rotatable relative to the adjustable clamping element and configured to engage a mounting surface;

the adjustable clamping element including a main body and an adjustable arm;

the adjustable clamping element also including a rod, wherein the adjustable arm of the adjustable clamping element is translatable, along the rod, relative to the main body of the adjustable clamping element;

the rotatable mounting element including a rotatable base plate having a first side and a second side opposite the first side, the first side of the rotatable base plate flush with and rotatably attached to the main body of the adjustable clamping element;

the rotatable base plate providing a rotating platform that enables the rotatable mounting element to be rotated at least one of clockwise or counter-clockwise relative to the main body of the adjustable clamping element;

the rotatable mounting element including a plurality of mounting arms extending from the base plate in a direction away from the main body and defining at least one mounting slot configured to accommodate engagement with a mounting surface;

wherein when the adjustable clamping element is completely retracted the rod is not exposed and is thereby not viewable; and

wherein when the adjustable clamping element is at least partially expanded there is a gap, between the main body and the adjustable arm of the adjustable clamping element, with the rod exposed and thereby viewable within the gap.

18. The portable device holder of claim **17**, wherein the plurality of mounting arms define at least two different size mounting slots, which include:

a first mounting slot having a first clearance when none of the at least two different size mounting slots is engaging any mounting surface; and

a second mounting slot having a second clearance when none of the at least two different size mounting slots is engaging any mounting surface;

the first clearance being different than the second clearance;

wherein the first clearance is larger than the second clearance, and thus, the first mounting slot is configured to accommodate engagement with a larger mounting surface than the second mounting slot is configured to accommodate.

19. A portable device holder comprising:

an adjustable clamping element comprising first and second opposing side grips and a main body, the adjustable clamping element being adjustable by linearly trans-

lating, relative to the main body, at least a portion of the adjustable clamping element from which the first side grip extends;

the adjustable clamping element also comprising a compression or torsion spring that facilitates expansion and retraction of the adjustable clamping element upon applying and releasing an expansive force on a surface of the adjustable clamping element;

a mounting element comprising a rotatable base plate flush with and rotatably attached to a back portion of the main body of the adjustable clamping element, the rotatable base plate providing a rotating platform that enables the mounting element to be rotated at least one of clockwise or counter-clockwise relative to the adjustable clamping element;

the mounting element also comprising first and second mounting arms extending from the base plate in a direction away from the main body and defining a mounting slot configured to accommodate engagement with a mounting surface;

wherein the mounting element comprises a metal or alloy sheet stamped to form the base plate with the first and second mounting arms extending from the base plate and bent relative to the base plate so that the first and second mounting arms extend from the base plate in the direction away from the main body and define the mounting slot therebetween;

wherein the mounting arms also comprise a gripping surface constructed from rubber, polymeric material or plastic;

wherein the mounting slot is rotatable relative to the adjustable clamping element by rotating the base plate relative to the main body of the adjustable clamping element thereby enabling the mounting slot to be selectively rotated between vertical and horizontal arrangements relative to the adjustable clamping element;

wherein when the adjustable clamping element is completely retracted the portion of the adjustable clamping element from which the first side grip extends is flush with a side portion of the main body; and

wherein when the adjustable clamping element is at least partially expanded, by application of an expansive force to cause the portion of the adjustable clamping element from which the first side grip extends to be linearly translated relative to the main body of the adjustable clamping element, there is a gap between the side portion of the main body and the portion of the adjustable clamping element from which the first side grip extends.

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