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(54) **FLEXIBLE FINGER STRAP AND SURFACE
MOUNT FOR ELECTRONIC DEVICE**

Publication Classification

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(2013.01)

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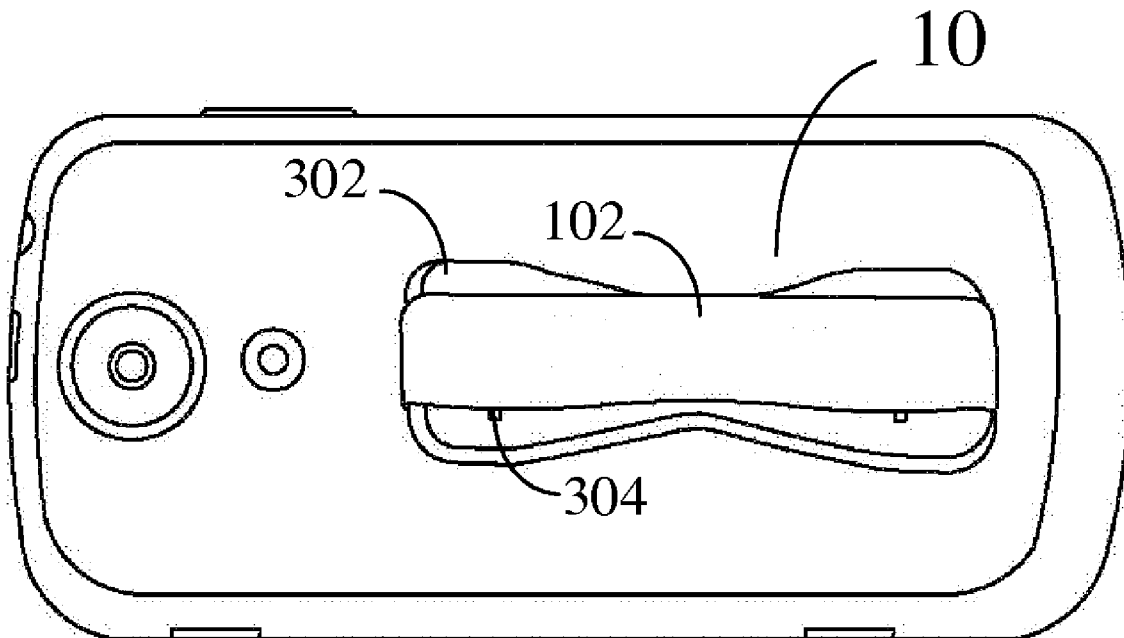
(57) **ABSTRACT**

Related U.S. Application Data

(63) Continuation-in-part of application No. 29/453,073,
filed on Apr. 24, 2013, which is a continuation of
application No. 13/481,581, filed on May 25, 2012,
now abandoned.

(60) Provisional application No. 61/490,516, filed on May
26, 2011.

The present disclosure relates to a system comprising a con-
nection apparatus and mount designed for easier and more
secure transport of a mobile phone or other hand-held elec-
tronic device, and wherein an electronic device can be
secured to a surface. The connection apparatus includes a
flexible strap, a rigid base, and an adhesive. The mount
includes a mount faceplate, a stem, and a surface attachment
system.



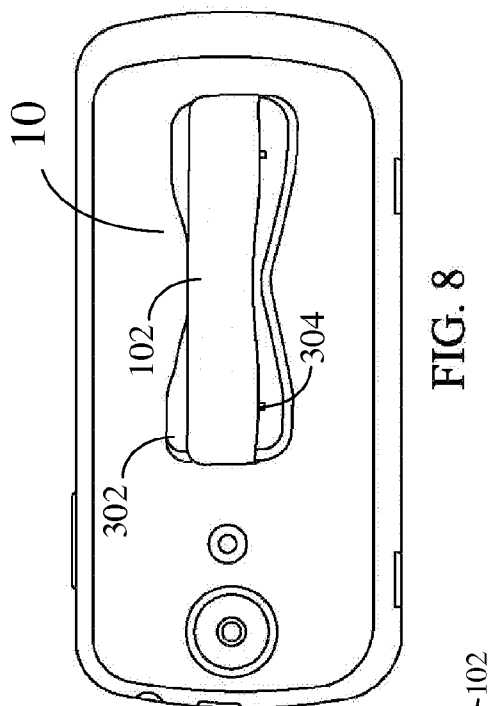
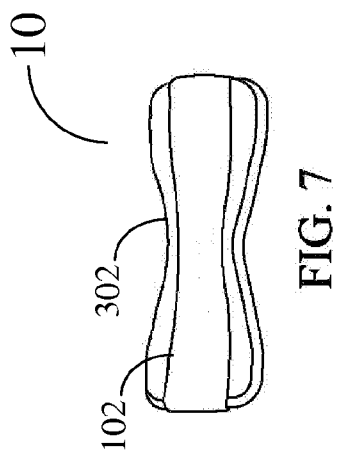
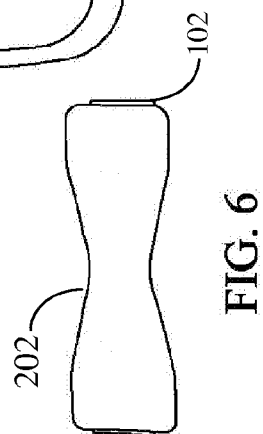
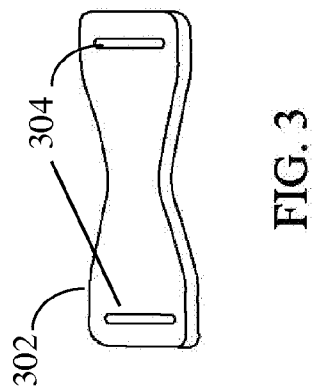
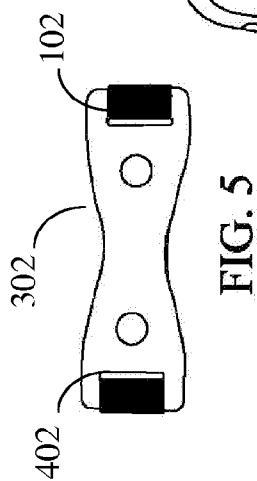
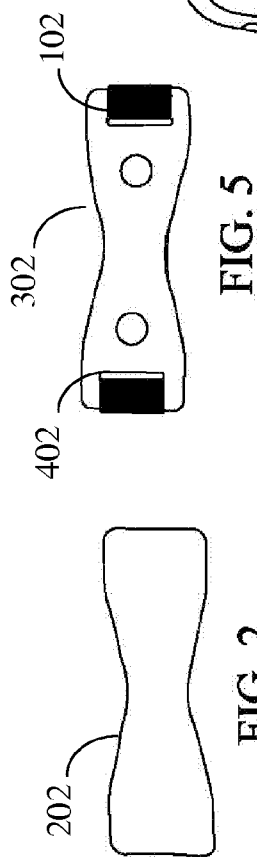
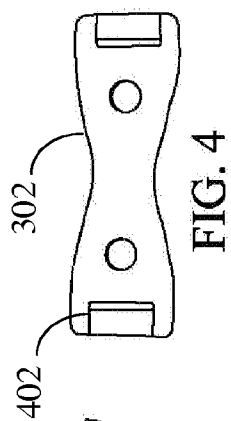
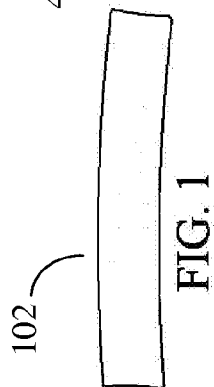


FIG. 3

FIG. 2

FIG. 4

FIG. 5

FIG. 7

FIG. 8

FIG. 6

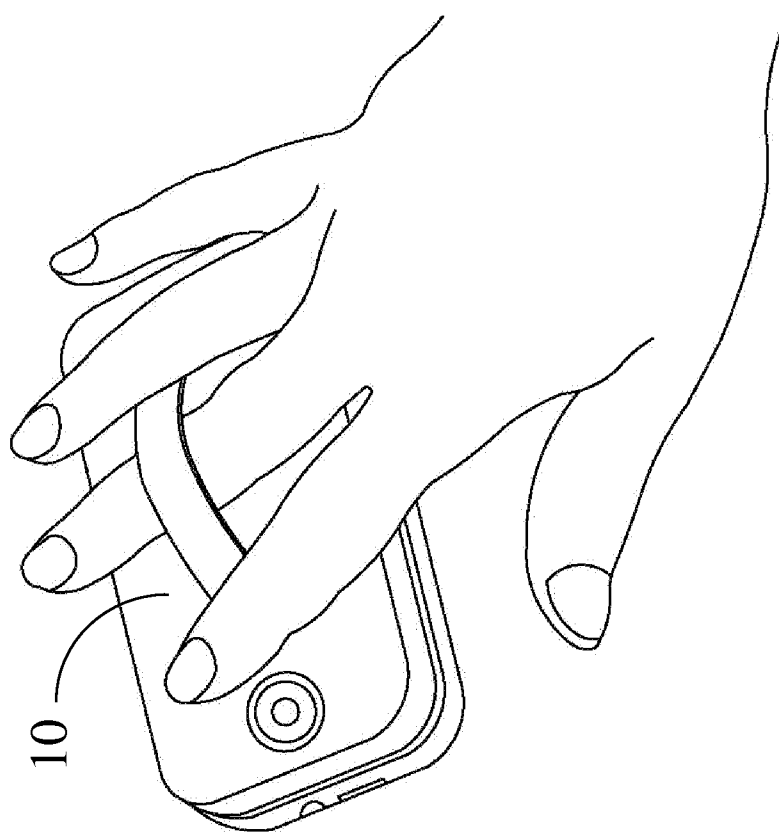


FIG. 9

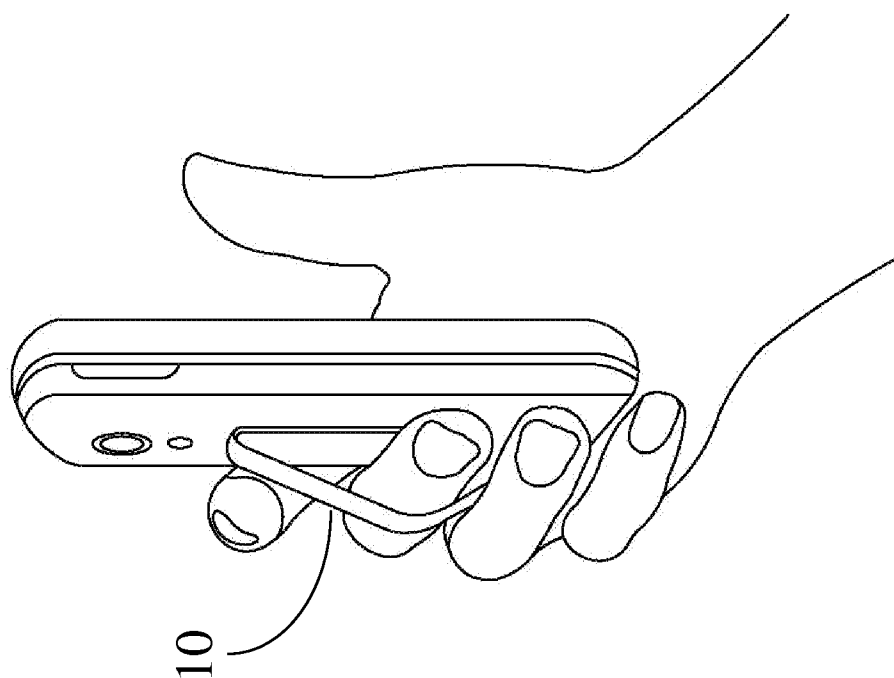


FIG. 10

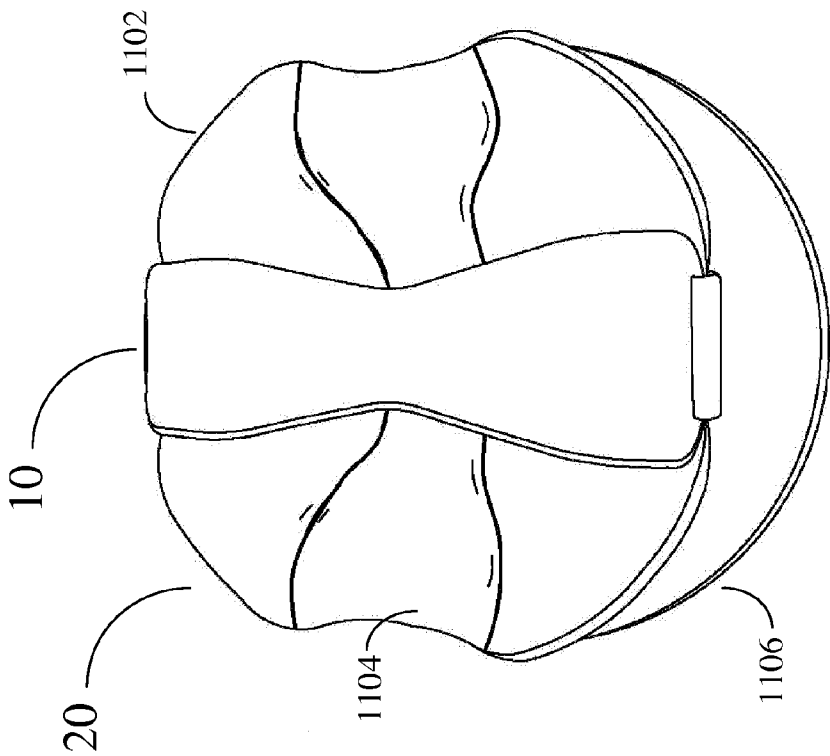


FIG. 11

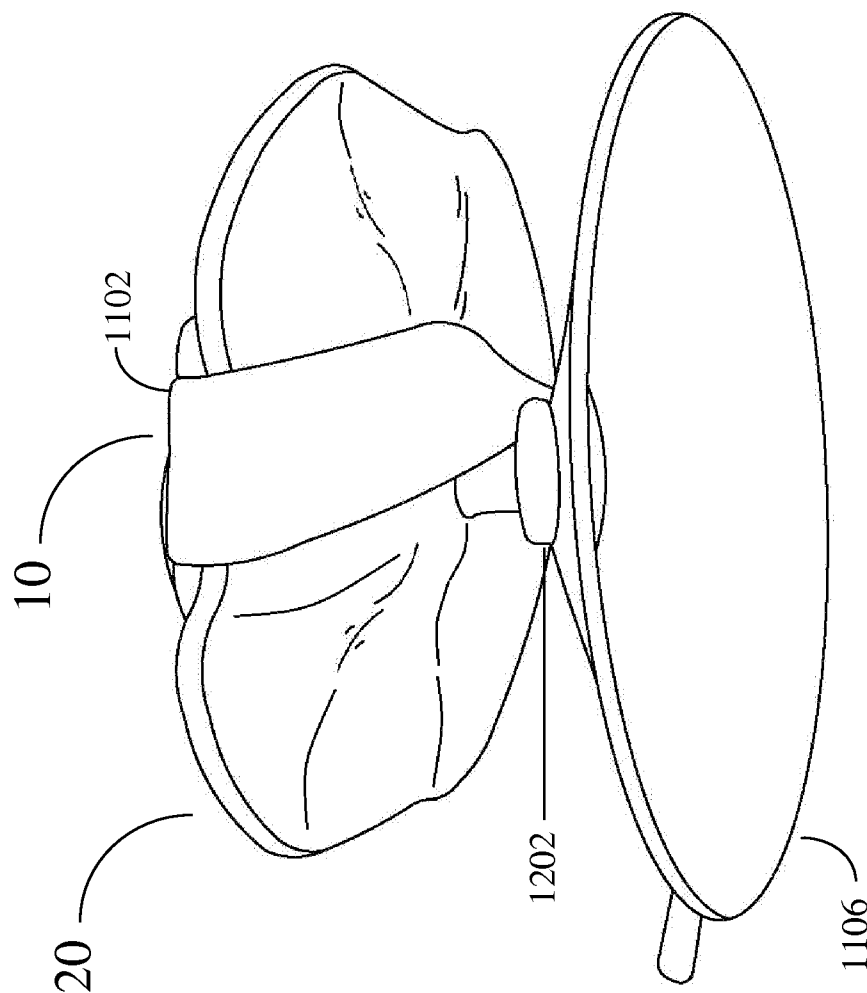


FIG. 12

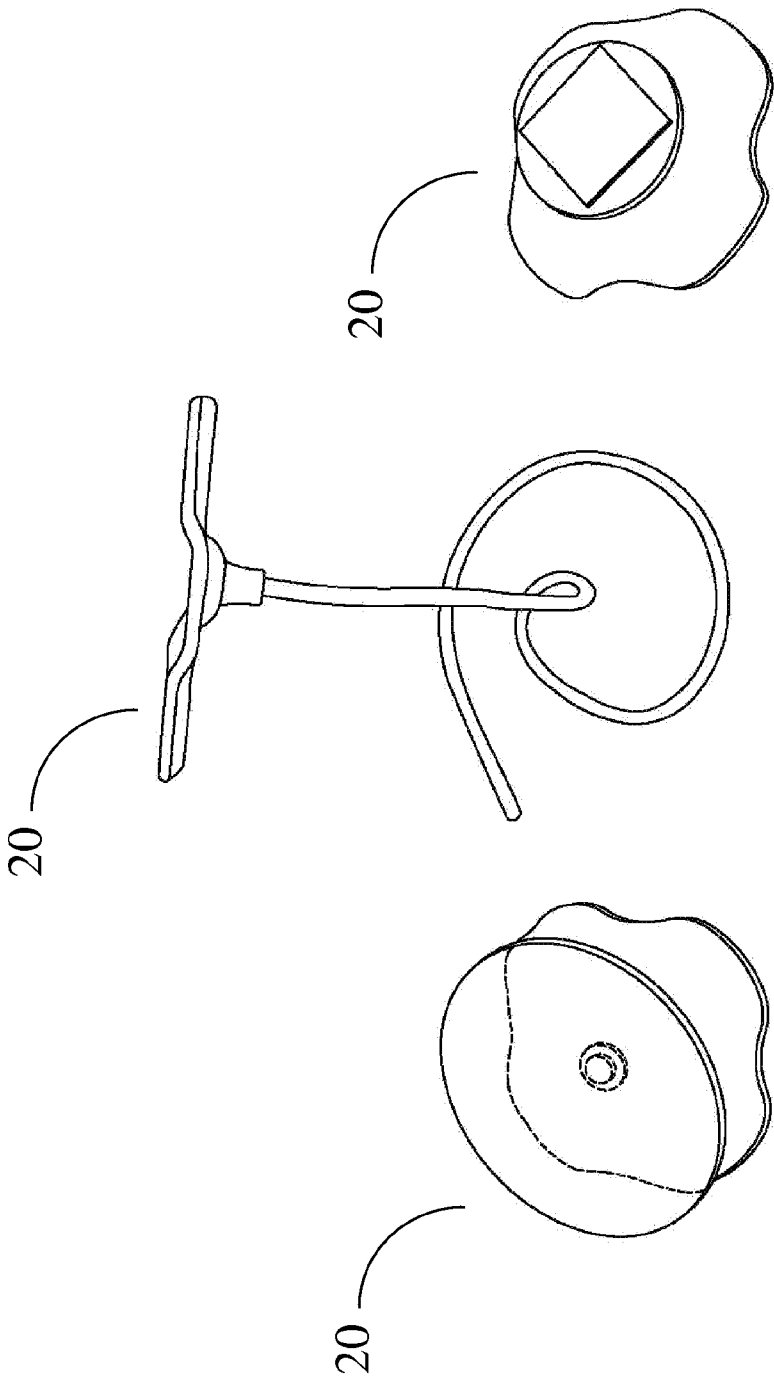


FIG. 13

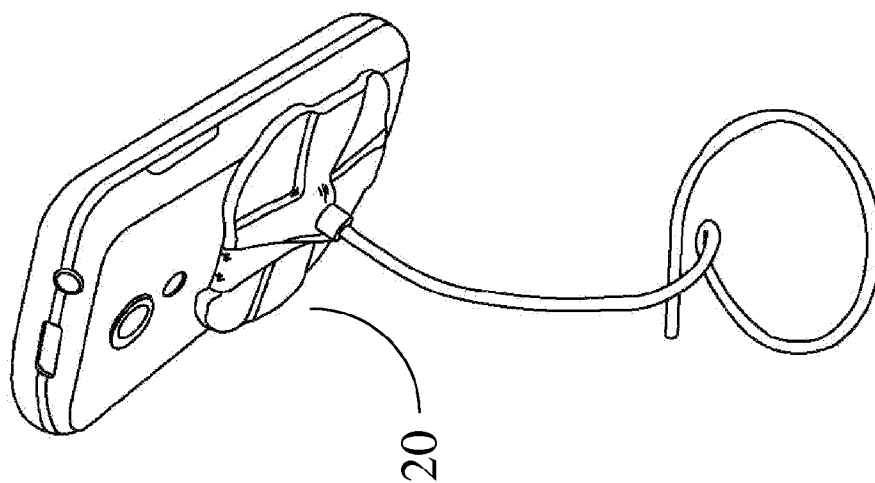


FIG. 14

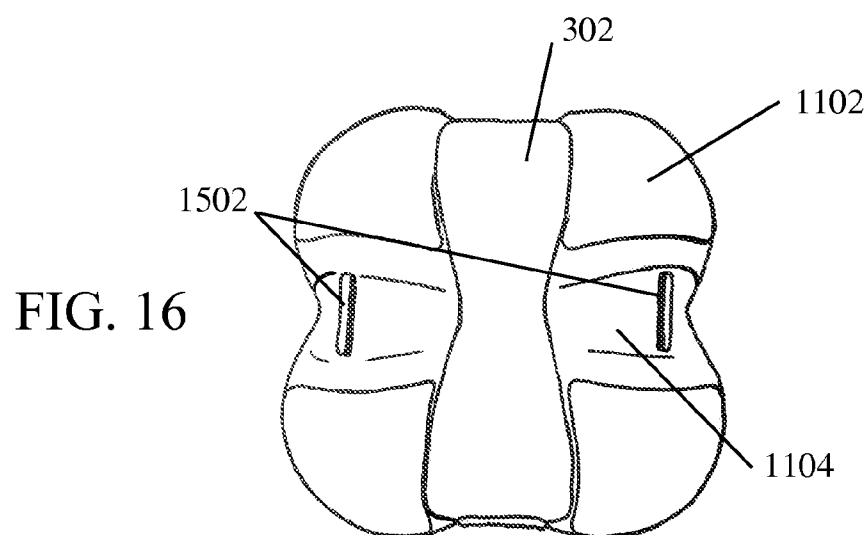
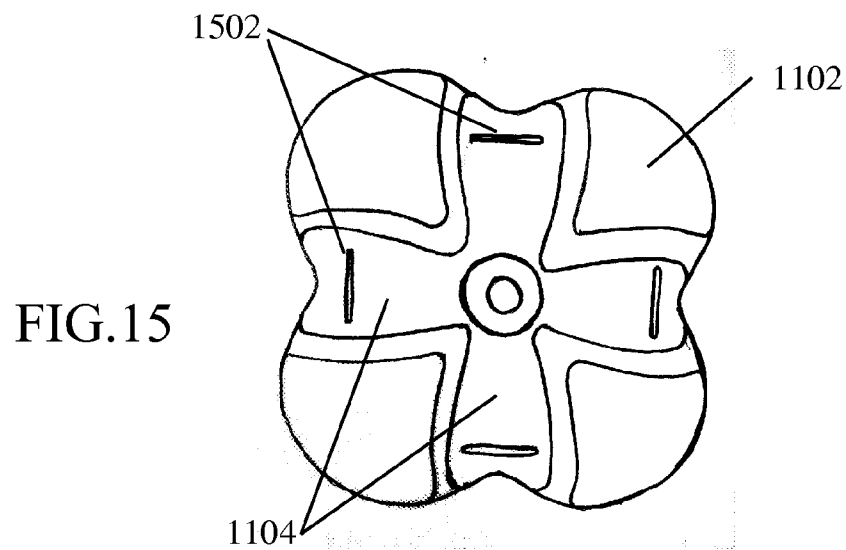


FIG. 17

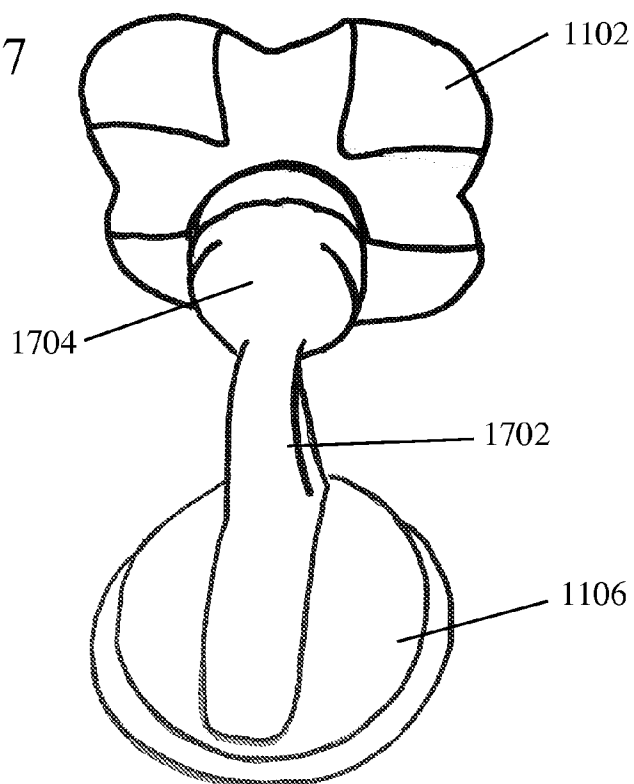


FIG. 18

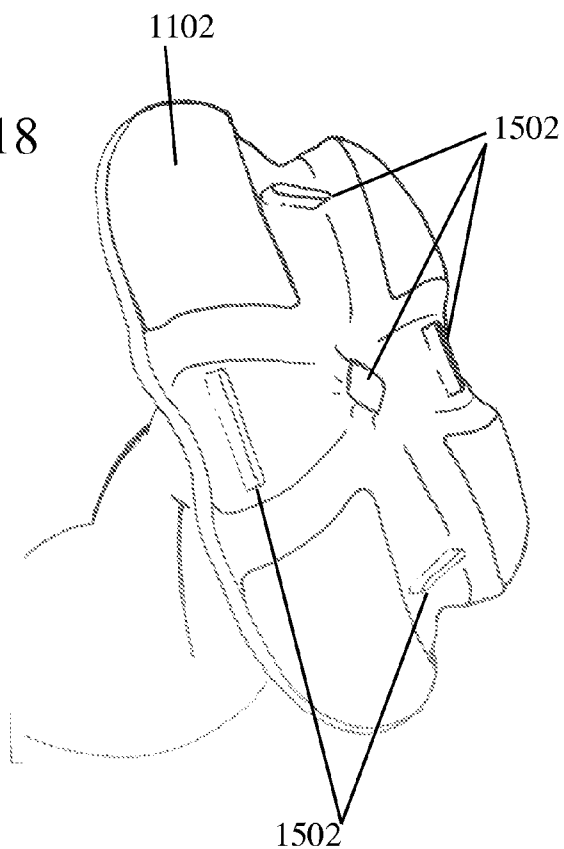


FIG. 19



FIG. 20

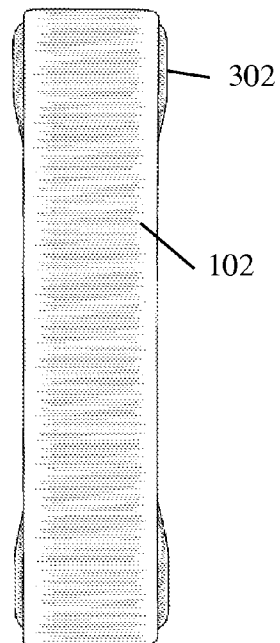


FIG. 21

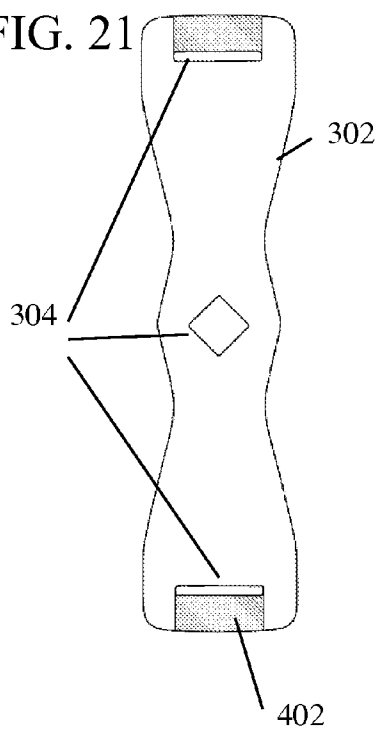
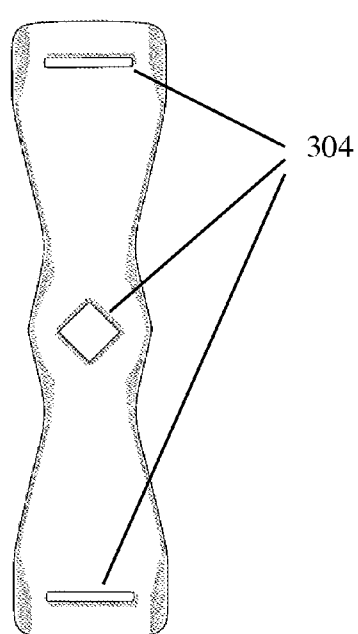


FIG. 22



FLEXIBLE FINGER STRAP AND SURFACE MOUNT FOR ELECTRONIC DEVICE

RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. Patent Application Ser. No. 29/453,073, filed on Apr. 24, 2013, titled ELASTIC FINGER STRAP AND BASE, which is a continuation of U.S. patent application Ser. No. 13/481,581, filed May 25, 2012, titled ELASTIC FINGER STRAP AND SURFACE MOUNT FOR ELECTRONIC DEVICE, which claims the benefit of U.S. Provisional Application Ser. No. 61/490,516, filed on May 26, 2011, titled ELASTIC FINGER STRAP AND SURFACE MOUNT FOR ELECTRONIC DEVICE.

FIELD OF THE DISCLOSURE

[0002] The present disclosure relates to a system comprising a connection apparatus and mount designed for easier and more secure transport of a mobile phone or other hand-held electronic device, and wherein an electronic device can be secured to a surface.

SUMMARY

[0003] In one aspect, the present disclosure relates to a flexible strap that is adhered to a rigid base that is, in turn, adhered to the back of an electronic device allowing the user to hold the electronic device securely with one or more fingers. The strap is flexible enough to allow a user to hold the device in a variety of ways, making it safer as well as more practical and ergonomic to use. The rigid base may be bowtie-shaped, as shown in the drawings, or of a shape, design or color that can be used to distinguish or stylize the electronic device it is attached to. The strap and strap base are of a low profile (ideally less than one quarter of an inch) so as to not interfere with the usual operation or grip of the device or other methods of securing the device.

[0004] In another aspect, there is disclosed a complementary base that adheres to a surface and mates to the strap, enabling an electronic device to be mounted to any surface and used in a “hands free” fashion. The complementary base may attach to a solid surface, article of clothing, vehicle interior, handbag, or luggage, among other things.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 illustrates the flexible strap of one embodiment of the present invention.

[0006] FIG. 2 illustrates the die cut adhesive used to adhere the rigid base to an electronic device in one embodiment of the present invention.

[0007] FIG. 3 illustrates a front view of the rigid base for the flexible strap in one embodiment of the present invention.

[0008] FIG. 4 illustrates a rear view of the rigid base for the flexible strap in one embodiment of the present invention.

[0009] FIG. 5 illustrates a rear view of the rigid base with the flexible strap attached in one embodiment of the present invention.

[0010] FIG. 6 illustrates a rear view of the rigid base with the flexible strap attached and a die cut adhesive in place in one embodiment of the present invention.

[0011] FIG. 7 illustrates a front view of one embodiment of the rigid base with the strap attached.

[0012] FIG. 8 illustrates one embodiment of the present invention attached to an electronic device.

[0013] FIG. 9 illustrates a front view of one embodiment of the present invention in the hand of a user and attached to an electronic device.

[0014] FIG. 10 illustrates a side view of one embodiment of the present invention in the hand of a user and attached to an electronic device.

[0015] FIG. 11 illustrates a front view of one embodiment of the mount faceplate of the present invention with the rigid base engaged.

[0016] FIG. 12 illustrates a perspective rear view of one embodiment of the mount faceplate of the present invention with the rigid base engaged.

[0017] FIG. 13 illustrates one embodiment of the mount faceplate of the present invention with three backer options.

[0018] FIG. 14 illustrates one embodiment of the strap and mount of the present invention in use with an electronic device.

[0019] FIG. 15 illustrates one embodiment of the mount faceplate with recesses and protrusions.

[0020] FIG. 16 illustrates one embodiment of the mount faceplate with the rigid base engaged.

[0021] FIG. 17 illustrates the mount faceplate attached to a stem and surface attachment system.

[0022] FIG. 18 illustrates the mount faceplate with various protrusions for aligning and securing the base.

[0023] FIG. 19 illustrates a side view of a longer version of the rigid base.

[0024] FIG. 20 illustrates a front view of the elongated rigid base with the flexible strap.

[0025] FIG. 21 illustrates a rear view of a longer rigid base with elastic attached in channels at both ends.

[0026] FIG. 22 illustrates a front view of a longer rigid base without the flexible strap and with recesses for receiving the protrusions of the mount faceplate.

DETAILED DESCRIPTION

[0027] The exemplary embodiments described herein in detail for illustrative purposes are subject to many variations in structure and design. It should be emphasized, however, that the present disclosure is not limited to a particular strap, base and mount, as shown and described. It is understood that various omissions and substitutions of equivalents are contemplated as circumstances may suggest or render expedient, but these are intended to cover the application or embodiments without departing from the spirit or scope of the claims of the present disclosure. Also, it is to be understood that the phraseology and terminology used herein are for the purpose of description and should not be regarded as limiting.

[0028] The use of “including,” “comprising,” or “having” and variations thereof herein is meant to encompass the items listed thereafter and equivalents thereof as well as additional items. Further, the terms, “a” and “an” herein do not denote a limitation of quantity, but rather denote the presence of at least one of the referenced item. Unless limited otherwise, the terms “attached,” “coupled,” and variations thereof herein are used broadly and encompass direct and indirect attachments and couplings.

[0029] Referring now to FIG. 7, there is depicted a connection apparatus 10 comprising a flexible strap 102 spanning the length of a rigid base 302. The flexible strap 102 is of an elastic fabric material, though may be comprised of rubber or similar flexible material. In the case of rubber, the flexible strap 102 could provide additional friction for secure handling of an electronic device. The flexible strap 102 is flexible

enough to allow a user's fingers to be inserted between the flexible strap **102** and a rigid base **302** for easier holding and control of the electronic device to which the rigid base **302** is attached. The flexible strap **102** can be permanently or removably secured to the rigid base **302** at both ends, as illustrated in FIG. 5, and attached in such a way that it is held taut against the rigid base **302**. The flexible strap **102** may be printed upon with text or graphics in some embodiments. The width of the flexible strap **102** may vary. The flexible strap **102** may have a loop to attach lanyards or trinkets. The rigid base **302**, as illustrated in FIGS. 3 and 4, may be of plastic, metal, wood or other rigid material. Additionally, the rigid base **302** may be made of semi-rigid or even flexible. For example, it could be made of neoprene or rubber. The rigid base **302** can adhere to the back side of any hand-held electronic device, protective case, or other solid surface using an adhesive **202** with strong bonding capability, but with such adhesive **202** also being removable; the VHB family of tapes or other similar adhesives may be used as the adhesive **202** in some embodiments of the present invention. Alternatively, the rigid base **302** could adhere to the backside of any hand-held device, protective case, or other solid surface through the use of a magnet. For example, the rigid base **302** can contain an embedded or surface magnet or it can be made of metal and capable of attaching to a magnetic surface. FIG. 2 illustrates one embodiment of the adhesive **202**. In other embodiments, the flexible strap **102** and rigid base **302** may be attached by physically engaging an electronic device's protective case or tensioned via buckle, snaps or by expanding the length of the rigid base **302**.

[0030] Referring now to FIGS. 1, 2, 3, and 4, the three components of the connection apparatus **10** are depicted. FIG. 1 illustrates a flexible strap **102** comprising a strip of elastic material. FIG. 3 illustrates the front of a rigid base **302** and FIG. 4 illustrates the rear of a rigid base **302**. FIG. 2 illustrates an adhesive **202**, which has a high bond adhesive but which will remove without damage to the device, its case, or the rigid base **302**. To improve adhesion, the adhesive **202** may be die cut to match the shape of the rigid base **302**, as shown in the embodiment depicted in FIGS. 2 and 6. In some embodiments, the adhesive **202** may cover only a portion of one side of the rigid base **302**. Some embodiments may use a single piece of adhesive material, and other embodiments may use multiple pieces of adhesive material.

[0031] Referring now to FIGS. 3 and 4, there is shown a thin, bowtie-shaped rigid base **302** with a front and rear face, two ends and two contoured sides. The sides and corners can be beveled towards the front face to create a smoother feel for the user. The sides can be contoured such that the rigid base **302** becomes narrower than the flexible strap **102** at one or more points, creating a gap between the connection apparatus **10** and the flexible strap **102** for easier insertion of fingers or attachment to a mount. At either end of the rigid base **302** are elongated recesses **304**. These protrusions **304** may also be the entire depth of the rigid base **302** creating a pass-through. Referring to FIG. 4, the rear face of the rigid base **302** is smooth, with channels **402** at each end to receive a portion of the flexible strap **102**. The channels **402** run the length of the rigid base **302**, are not visible from the front, and are as wide as the flexible strap **102**. The rigid base **302** may be made to different lengths and widths to accommodate different mounting apparatus or appendages. The rigid base **302** may

be integrated with the case of the electronic device. In one embodiment, the rigid base **302** may be a protective case for a mobile phone.

[0032] FIG. 8 illustrates the connection apparatus **10**, which includes the flexible strap **102** and rigid base **302**, connected to the back of an electronic device. FIGS. 9 and 10 demonstrate use of the connection apparatus **10** when the flexible strap **102** and rigid base **302** are attached to an electronic device and held in a user's hand.

[0033] Referring now to FIGS. 11 through 18, a complementary mount **20** for securing an electronic device to a surface is shown. The mount **20** interfaces with the flexible strap **102** and rigid base **302**. The mount **20** includes a mount faceplate **1102**, a stem **1702** that allows for positioning, and a surface attachment system **1106**. As illustrated in FIG. 17, the mount faceplate **1102** may attach to the stem **1702** with a center rivet **1202** that allows for a variety of stems **1702** and surface attachment systems **1106** or a molded fitting **1704** that allows the mount faceplate **1102** to be positioned. FIG. 13 illustrates one embodiment of the mount faceplate of the present invention with three backer options.

[0034] The mount faceplate **1102** can be made of a rigid material and can have two concave recesses **1104** in the shape of the rigid base **302**. The concave recesses **1104** may vary in dimension and placement depending on the shape of the rigid base **302**. The concave recesses **1104** are placed perpendicular to one another to accommodate holding an electronic device in either landscape or portrait orientation. The mount faceplate **1102** has protrusions **1502** that fit securely in recesses **304** to securely hold and align the attached electronic device. The protrusions **1502** may be a variety of shapes and positions as illustrated in FIG. 18. FIG. 15 illustrates one embodiment of the faceplate with recesses **1104** and protrusions **1502**.

[0035] Referring to FIGS. 11, 12 and 14, 16 the mount faceplate **1102** can receive the flexible strap **102** and rigid base **302** when the rigid base **302** is aligned into the concave recesses **1104** and the protrusions **1502** in the mount faceplate **1102** are "keyed" in to the recesses **304** in the rigid base **302**. The flexible strap **102** aligns against the stem **1702** in the center of the mounting faceplate **1102**, holding the electronic device in place. The mount faceplate **1102** may be made from, or include in its construction, plastic, wood, metal, leather, rubber, or synthetic or other material. Further, the mount faceplate **1102** may be magnetic in that it contains a magnet or is made of metal and capable of attaching to a magnetic surface. The mount faceplate **1102** at the point of the recesses **1104** is equal to or slightly less than the length of the rigid base **302**. The mount faceplate **1102** is secured to its stem **1702** and surface attachment system **1106** with sufficient height to enable the securing of an electronic device at a usable angle. The stem **1702** can be semi-flexible, wherein it can be bent into different angles or directions and can hold the angle or direction into which it is bent. The surface attachment system **1106** may include but is not limited to, suction cups, a solid surface with high bond adhesive tape, flexible wire or armature, VELCRO, or magnets. The surface attachment system **1106** can be designed to mount to a wall or any flat surface.

[0036] In some embodiments, the mount **20** is contoured to attach to a computer case or the case of a tablet computer or e-book reader or similarly flat-screened device. The mount **20** may also be shaped to attach to a musical instrument, bicycle, or tool. The mount **20** may also attach to objects via magnets,

VELCRO, snaps, adhesive strip, hooks, bolt and nut, screw, or any other means of attachment. The mount **20** may employ rubber or other high friction material in order to securely hold a device.

[0037] FIGS. **19** through **22** illustrate an elongated form of the connection apparatus **10**. More specifically, FIG. **19** illustrates a side view of an elongated rigid base **302**, and FIG. **20** illustrates a front view of the elongated rigid base **302** with the elongated flexible strap **102** attached.

[0038] In one embodiment, as illustrated in FIGS. **21** and **22**, the rigid base **302** can include recesses **304** at the ends and in the middle of the rigid base **302**. FIG. **21** illustrates a rear view, and FIG. **22** illustrates a front view, of the rigid base **302** with recesses **304** at the ends and in the middle of the rigid base **302** where the recesses **304** create a pass-through in the rigid base **302**. In FIG. **21**, the rigid base **302** is attached to the flexible strap **302** through the channels **402**. In FIG. **22**, the

recesses **304** are shown on the front of the rigid base **302** and no flexible strap **102** is attached.

We claim:

1. An apparatus that facilitates holding an electronic device comprising:

a rigid base, having a first end, a midpoint, and a second end, that is configured to adhere to an electronic device, and
a flexible strap attached to the rigid base.

2. The apparatus of claim 1, wherein the flexible strap is configured to partially encircle a portion of a user's hand.

3. The apparatus of claim 1, wherein the rigid base has a shape that is wider at the first end and the second end than at the midpoint.

4. The apparatus of claim 1, wherein the flexible strap and rigid base are configured to mate with a mount.

* * * * *