

"PERSONAL DEVICE FASTENING SYSTEM"

FIELD OF THE INVENTION

This invention relates to a fastening system for safeguarding
5 personal devices and articles. The invention is described with reference to
its use with mobile phones. However, it should be appreciated that the
fastening system may be used for safeguarding a variety of articles such as
keys, security cards, cameras, hand held video recorders, electronic
organisers or personal digital assistants (PDA), global positioning systems
10 (GPS) and like articles.

BACKGROUND OF THE INVENTION

Mobiles phones are expensive items that have become an
essential tool of business and common means for personal communication.
Accordingly, they are transported with a user when they travel from one
15 location to another.

One way in which a mobile phone is carried is within a pocket
of a user. To use the phone, the user must retrieve the phone from the
pocket, which may cumbersome and is relatively insecure. The mobile
phone can be accidentally dislodged from the pocket. This may cause the
20 mobile phone to be lost and/or damaged. Further, pickpockets can easily
steal the mobile phone.

Another popular way in which a mobile phone is carried is
through the use of a belt clip. The belt clip is typically attached directly to a
mobile phone or attached to a casing that covers the mobile phone. The belt

clip is then clipped to the belt of a user. Again, the mobile phone is readily accessible, but is bulky and provides only limited movement of the phone when attached to the user. A typical known belt clip with the phone attached is often uncomfortable as the limited movement may cause the mobile phone
5 to dig into the user's leg and/or the phone may inadvertently unclip due to the user's movement. Such known clips being attached directly behind the phone results in projecting the phone outwardly away from the user. Such an arrangement leads to the phone being more exposed for possible damage by hitting objects when worn.

10 Yet another popular method of carrying a mobile phone is carry it within a bag such as a handbag or rucksack. This increases the security of the mobile phone, but reduces its accessibility. The mobile phone may ring whilst in the bag, yet a user must search through the bag to locate the mobile phone. Often phone calls are missed due to the time taken for a person to
15 locate the mobile phone.

Recent trends in mobile phones have lead to an increase in "SMS text messages" or visual-type messages being displayed that do not require audio-communication. Accordingly, it is not necessary to always position the phone adjacent a user's head to communicate. The
20 abovementioned background art requires a user to remove the phone either from a pocket or unclipping the phone from a stored location to view the display or keypad. This is inconvenient and increases a risk of dropping or losing the phone.

OBJECT OF THE INVENTION

It is an object of the invention to overcome and/or alleviate the above disadvantages or provide the consumer with a useful or commercial choice.

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SUMMARY OF THE INVENTION

In a first aspect, the clip comprises:

a body;

a capture zone comprising a first and second opening, said capture zone being capable of capturing at least one capture member;

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first gate capable of blocking the first opening; and

second gate capable of blocking the second opening;

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wherein respective gates are capable of being opened to enable at least one capture member to enter and exit the capture zone and said respective gates are capable of being closed to capture at least one capture member to exit the capture zone.

Preferably, the first opening is an entrance and the second opening is an exit.

Preferably, the first gate is an entrance gate and the second gate is an exit gate.

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Preferably, each gate is capable of being opened independently of the other gate.

The capture zone may be formed by a recess that extends there through.

Preferably, the capture zone is linear.

The capture zone may include an insertable liner that extends substantially a length of said capture zone.

The capture member may be a plug including a fixed plug, pivotal plug, extendable plug and rotatable plug as described herein.

5 At least one gate may be a depressible member.

The depressible member may be a plate.

The depressible member may be pivotally attached to the body.

The depressible member is preferably the entrance gate.

10 The clip may further comprise a locating channel that tapers towards the entrance of the capture zone.

The exit gate may comprise an exit member to allow the capture member to be released from the capture zone.

Preferably, the exit member is an exit pin.

15 The exit pin may be located at an end of the capture zone opposite to that of the depressible member.

In one form, the clip comprises an attachment member for attaching the clip to an object.

A backside of the body of the clip may be adapted to receive the attachment member.

20 The backside of the body may comprise at least one receiving aperture for receiving a fastener.

Preferably, the attachment member is removably attachable to the backside of the body by at least one fastener.

More preferably, the attachment member is removably

attachable to the backside of the body by said fastener(s) via mating the receiving aperture(s).

The fastener(s) may be a screw, bolt, pin or other like fastener.

In one form, the attachment member comprises at least one pin
5 having a conical head.

In another form, the attachment member comprises at least one pin having a rounded head.

Preferably, the attachment member comprises two pins.

The fastener(s) may be adapted to engage a receiving aperture
10 located on the backside of the body.

The receiving aperture may be an adjustable aperture biased to open for receiving the fastener and close to secure the fastener.

The attachment member may include a loop, plate, clip, hook, or other suitable member for securing the clip to an object.

15 The clip in one form comprises an attachment member attached to the clip.

In one form of the invention, the clip preferably further comprises a capture member attached to a device, whereby the capture member when located in the capture zone of the clip attaches the device to
20 the clip.

Preferably, the capture member when located in the capture zone allows the device to hang at least partially below the clip.

The device may include a phone, electronic planner, camera, keys, electronic organiser, global positioning system, cable retractor or any

other suitable device.

The device when attached to the clip via the capture member may allow viewing of a display, screen, keypad or the like of the device in a correct orientation without disconnecting the device from the clip.

5 In a second aspect, although not necessarily the broadest or only aspect, the invention resides in a clip comprising:

a body;

a capture zone comprising an opening, said capture zone being capable of capturing at least one capture member;

10 a gate located at the opening of said capture zone, said gate capable of blocking the opening; and

a locating channel that tapers towards the opening of the capture zone;

wherein when said gate is open at least one capture member is
15 capable of entering and exiting the capture zone and when said gate is closed said capture member(s) are captured within the capture zone.

In a third aspect the invention resides in a clasp comprising:

a first member having at least one track;

a second member having at least one carriage;

20 said carriage movable along said track such that the first member is slideable with respect to said second member; and

a detention zone located between said first member and said second member to accommodate a detention member;

wherein said first member is able to be moved relative to said

second member to a first position to allow said detention member to be positioned within said detention zone and said first member is able to be moved relative to said second member to a second position to lock said detention member with said detention zone.

5 The first member may be a base member whilst the second member may be a slide member.

 The slide member may be biased to be located in the second position when not in use.

 In a fourth aspect the invention relates to a retractor as
10 described herein that may be used separately or in combination with the first, second and third aspects of the invention.

 It will be appreciated that the clip may allow a phone (or other suitable device), to be attached to the user via a capture member so that the phone hangs at least partially below the clip, thereby reducing an outwardly
15 extending profile of the phone. This may reduce damage to the phone by accidental contact by a passing object and may also lead to improved comfort to the user wearing the phone. The phone may also be viewed in a correct orientation, i.e. so that the screen and numbers are right-side up while attached to the user.

20 Further, in one form of the invention the features of the clip allow for convenient attachment and release of the phone to the clip by moving a capture member, (eg. a plug) attached to the phone in a single direction through the capture zone. It will also be appreciate that the clip and clasp as described above and herein may be used in any suitable

combination and in combination with other suitable devices, eg. a retractor. These and other advantages will be more apparent in light of the description provided herein.

Throughout this specification unless the context requires otherwise, the word "comprise", and variations such as "comprises" or "comprising", will be understood to imply the inclusion of the stated integers or group of integers or steps but not the exclusion of any other integer or group of integers.

BRIEF DESCRIPTION OF THE DRAWINGS

10 In order that the invention may be readily understood and put into practical effect, preferred embodiments will now be described by way of example with reference to the accompanying drawings wherein like reference numerals refer to like parts in which:

15 FIG 1A is a front view of a clip in accordance with an embodiment of the invention.

FIG 1B is a right side view of the clip of FIG 1A.

FIG 1C is a left side view of the clip of FIG 1A.

FIG 1D is an operational side view of the clip of FIG 1A, illustrating insertion of a capture member into the capture zone.

20 FIG 1E is a sectional end view of the clip of FIG 1D.

FIG 1F is a further operational side view of the clip of FIG 1A, illustrating exiting of the capture member from the capture zone.

FIG 1G is a sectional end view of the clip of FIG 1F.

FIG 1H is a perspective view of the clip attached to a retractor

via a plug.

FIG 1I is a perspective view of the clip attached directly to a mobile phone via a plug.

FIG 1J is a perspective view of a clip in accordance with
5 another embodiment of the invention.

FIG 1K is an exploded perspective view of the clip of FIG 1J.

FIG 1L is a front view of the clip of FIG 1J.

FIG 1M is a side view of the clip of FIG 1J.

FIG 1N is a rear view of the clip of FIG 1J.

10 FIG 1O is a further rear view of the clip of FIG 1J.

FIG 1P is a side view of a clip comprising an attachment member having an adhesive strip.

FIG 1Q is a side view of a clip comprising an attachment member in a form of a clip.

15 FIG 1R is a further side view of a clip comprising an attachment member in a form of a pin.

FIG 1S is a side view of a clip comprising an attachment member in a form of a loop.

FIG 2A is a rear view of a clip according to another
20 embodiment of the invention with a back plate removed and adjustable attachment apertures in an open position.

FIG 2B shows the clip shown in FIG 2A with the adjustable attachment apertures in a closed position.

FIG. 2C is a front view of a body of the clip shown in FIG 2A.

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FIG 2D is a side view of the body of the clip shown in FIG 2C.

FIG 2E is a bottom view of the body of the clip shown in FIG 2C.

FIG 2F is a top view of the body of the clip shown in FIG 2C.

5 FIG 2G is a rear view of the body of the clip shown in FIG 2C.

FIG 2H is a cut-away side cross section of the body shown in FIG 2C.

FIG 2I is a cut-away transverse section of the body of the clip shown in FIG 2C.

10 FIG 3A is a front view of a of a cover plate attachable to the clip shown in FIGS 2A-2I.

FIG 3B is a side view of the cover plate of FIG 3A.

FIG 3C is a rear view of the cover plate of FIG 3A.

15 FIG. 3D shows an expanded perspective view of the clip of FIGS 2A-2I, with the cover plate shown in FIGS 3A-3C.

FIG 4A is a rear view of a looped attachment member.

FIG 4B is a side view of the looped attachment member of FIG 4A.

20 FIG 4C is a plan view of a plate attachment member with conical shaped pins.

FIG 4D is a side view of the plate attachment member of FIG 4C.

FIG 4E is a plan view of a plate attachment member with rounded shaped pins.

FIG 4F is a side view of the plate attachment member of FIG 4E.

FIG 4G is a rear view of a clip attachment member.

FIG 4H is a side view of the clip attachment member of FIG 4G.

5 FIG 4I is a top view of a clip attachment member of FIG 4G.

FIG 4J is a plan view of a hook attachment member.

FIG 4K is a side view of the hook attachment member of FIG 4J.

10 FIG 4L shows the hook attachment member of FIGS 4J and 4K being attached to a backside of a clip.

FIG 4M shows a plan view of the clip with the hook attachment member attached to the backside of the clip.

FIG 4N shows a side view of FIG 4M.

FIG 5A is a side view of a connecting pin.

15 FIG 5B is a side view of a plug with the connecting pin of FIG 5A.

FIG 5C is a further side view of the plug of FIG 5B.

FIG 5D is a still further side view of the plug of FIG 5B.

FIG 5E is a side view of another connecting pin.

20 FIG 5F is a side view of a plug with the connecting pin of FIG 5E.

FIG 5G is a further side view of the plug of FIG 5F.

FIG 5H is a still further side view of the plug of FIG 5F.

FIG 5I is a perspective view of the plug shown in FIG 5B.

FIG 5J is a perspective view of the plug attached to the clip and retractor via a line member.

FIG 6A is an exploded perspective view of an alternative plug being attached to a mobile phone.

5 FIG 6B is a perspective view of the plug in FIG 6A attached to the mobile phone.

FIG 6C is a perspective view of the plug attached to a clip and mobile phone.

10 FIG 6D is a side view of the plug attached to a clip and mobile phone.

FIG 6E is a further side view of the plug attached to a clip and mobile phone.

FIG 6F is a perspective view of the plug attached to a clip wherein the plug is attached to a backside of a phone so that the display and keypad may be viewed by a user in a correct orientation.

FIG 7A is a plan view of another plug attachable to a mobile phone.

FIG 7B is a side view of the plug in FIG 7A.

20 FIG 7C is a plan view of yet another plug attachable to a mobile phone.

FIG 7D is a side view of the plug in FIG 7C.

FIG 7E is a perspective view of a rotatable plug.

FIG 7F is a plan view of the plug shown in FIG 7E with a pin shown in both an extended position and retracted position (in phantom).

FIG 7G is a side view of a body portion a bayonet-type plug.

FIG 7H is a partially cut-away plan view of the bayonet-type plug with a pin retracted.

FIG 7I is a view of the plug shown in FIG 7H with the pin
5 extended.

FIG 7J is a plan view of another embodiment of the plug wherein the plug comprises a flat plate for attaching the plug to a device.

FIG 7K is a side view of the plug shown in FIG 7J.

FIG 8A is a sectional side view of a fixed plug attached to a line
10 member.

FIG 8B is a sectional side view of a fixed plug being attached to a line member.

FIG 8C is a perspective view of another embodiment of a fixed plug with components unassembled.

FIG 8D is a perspective view of the plug shown in FIG 8C with
15 a line member attached to an internal member.

FIG 8E is a perspective view of the plug shown in FIG 8C with the internal member inserted within the plug.

FIG 8F is a perspective view of the plug shown in FIG 8C fully
20 assembled with the line member attached.

FIG 8G is a perspective view of the plug shown in FIG 8F before attaching a securing ring.

FIG 8H is a perspective view of the plug shown in FIG 8G with the securing ring attached.

FIG 9A is side sectional view of a clasp.

FIG 9B is a sectional top view of the clasp of FIG 9A.

FIG 9C is an exploded side sectional view of the clasp of FIG 9A.

5 FIG 9D is a top sectional view of the clasp FIG 9B.

FIG 9E is a top view of one half of an embodiment of the clasp of FIG 9A.

FIG 10A is a side sectional view of a fixed plug being attached to a clasp.

10 FIG 10B is a side sectional view of the fixed plug attached to the clasp.

FIG 11 shows a perspective view of the clip and clasp of the invention attached to personal devices.

15 FIG 12A is a plan sectional view of a retractor according an embodiment of the invention.

FIG 12B is a side sectional view of a retractor of FIG 12A.

FIG 12C is an exploded view of a retractor of FIG 12A.

FIG 12D is a partial exploded perspective view of the retractor of FIG 12A.

20 FIG 12E is another partial exploded perspective view of the retractor of FIG 12A.

FIG 13A is a perspective view of an attachment screw.

FIG 13B is a further perspective view of the attachment screw of FIG 13A.

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FIG 13C is a perspective view of the retractor being attached to a mobile phone using the attachment screw of FIGS 13A and 13B.

FIG 14A is a perspective view of another attachment screw.

FIG 14B is a further perspective view of the attachment screw
5 of FIG 14A.

FIG 14C is a perspective view of the retractor being attached to a mobile phone casing using the attachment screw of FIGS 14A and 14B.

FIG 15A is a perspective view of an attachment pin.

FIG 15B is a further perspective view of the attachment pin of
10 FIG 15A.

FIG 15C is a perspective view of a backing plate used with the attachment pin of FIGS 15A and 15B.

FIG 15D is a perspective view of the retractor attached to a garment using the attachment pin of FIGS 15A and 15B.

FIG 15E is an exploded perspective view of the retractor being
15 attached to a garment using the attachment pin of FIGS 15A and 15B.

FIG 16A is a partial side sectional view of an alternative housing of the retractor.

FIG 16B is partial side sectional view of another alternative
20 housing of the retractor.

FIG 16C is a perspective view of retractor inserts located within a retractor.

FIG 16D is a enlarged side view of a slot displacement aperture.

FIG 17A is a partial plan view of a karabiner in accordance with an embodiment of the invention.

FIG 17B is a plan view of the karabiner of FIG 17A attached to a retractor.

5 FIG 17C is a side view of the karabiner and retractor of FIG 17B.

FIG 17D is a plan view of the karabiner and retractor of FIG 17B attached to the mobile phone.

10 FIG 18A plan view of a karabiner according to an embodiment of the invention.

FIG 18B is a plan view of the karabiner of FIG 18A attached to a retractor.

FIG 18C is a front view of the karabiner and retractor of FIG 18B attached to a mobile phone.

15 FIG 19A shows a plan view of an embodiment of the clip comprising a capture zone having a single entrance.

FIG 19B is a sectional side view of the clip in FIG 19A.

FIG 19C is a back view of the clip in FIG 19A.

20 FIG 19D is a partial sectional top view of the clip in FIG 19A with the gate in a closed position.

FIG 19E is a partial sectional top view of the clip in FIG 19A with the gate in a transitional position from open and closed.

FIG 19F is a partial sectional top view of the clip in FIG 19A with a gate in an open position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Clip without quick release mechanism

FIGS 1A to 1I show a first embodiment of a clip (300). A recess in the form of a canal (310) extends through part of body (301) to form a capture zone (311). The capture zone (311) is defined by a first opening (310a), e.g. top entrance, and a second opening (310b), e.g. bottom exit, respectively blockable by first gate (320), shown as an entrance gate, and second gate (330), shown as an exit gate. The entrance gate is shown as depressible plate (320) located adjacent opening (310a) of the canal (310) and the second gate (330) is shown as an exit pin located adjacent second opening (310b).

The depressible plate (320) is located within a tapered locating channel (340) and is mounted to the body (301) via a first screw (321). The locating channel (340) is tapered such that it tapers toward the opening (310a). An attachment member is shown as an attachment clip (350) attached to body (301) using first and second screws (321, 322) locatable in threaded holes (321a, 322a). Attachment clip (350) may be fastened to clip (300) via any suitable fastener, eg. a screw, rivet, weld, glue, ect.

The exit pin (330) is biased via a spring (331) to close the lower opening (310b) of the canal (310). A pin (366) is attachable to exit pin (330) to retain and prevent rolling of the exit pin (330) within hollow chamber (367) and pin (366) contacts spring 331 as shown in embodiments of FIGS 1E and 1G. The exit pin (330) can be depressed to cause an arcuate aperture (332) located within the exit pin (330) to align with the opening (310b), opening the

canal (310) as shown in FIG 1G.

A capture member, shown as a plug (400), is captured within the capture zone (311) as shown in FIG 1D. The term "captured" used herein refers to retaining or securing a capture member within the capture zone. When a gate is closed thereby blocking an opening of the capture zone, a capture member is captured within the capture zone. To enable the plug (400) to be captured, the plug (400) is pressed against the depressible plate (320). This causes the depressible plate (320) to be depressed and opens the upper end or opening of the canal (310). The plug (400) is then moved toward the opening (310a) of the canal (310) with the locating channel (340) providing a guide for the plug (400). Once a head (401) of the plug (400) passed into the canal (310), the depressible plate (320) moves back to its starting position preventing the head of the plug (400) from being removed thereby closing the gate. A stem (402) of the plug (400) extends through the canal (310).

When the plug (400) is to be removed from the capture zone (310), the exit pin (330) is depressed to open the exit gate (330) and the plug (440) is slid from the canal (310) as show in FIG 1F.

The above described features of the clip (300) allow for passage of the plug (400) in a single direction for attaching and releasing the plug (400) to the clip (300). The figures show the single direction as downward, which provides a convenient and easy means for attaching and releasing the phone. The downward release of the plug and attached phone is assisted by gravity. It will be appreciated, however, an alternative

embodiment of the invention includes gates that allow the capture member(s) to enter and exit the capture zone at top and bottom openings thereof. For example, a gate such as the exit gate (330) or gate (830) shown in FIGS 19A-19F may be used at either or both openings (310a, 310b).

5 A length of canal (310) may be any suitable length. In one embodiment, the canal (310) may accommodate several plugs (400) and in another embodiment, the canal (310) is essentially a length just long enough to retain a plug (400) so that there is little if any sliding of the plug (400) within the capture zone (311). Although the canal (310) is shown as linear,
10 the canal (310) may also be curved, saw toothed or otherwise shaped.

Plug (400) may include embodiments shown as plug (402) in FIGS 8A and 8B and plug (700) shown in FIGS 8C-8H.

The features of clip (300) also result in the phone (10) being able to hang substantially below the clip (300), as shown for example in
15 FIGS. 1H, 1I, 6C and 6F. It will be appreciated that this arrangement minimises an outward profile of the phone when attached to the clip. The clip allows for the phone to hang at least partially below the clip so that the width of the clip does not significantly add to the outwardly extending profile of the phone, which is the case for typical mobile phone clips attached to a
20 backside of the phone. This arrangement also reduces a likelihood that the phone will be damaged by accidental hitting against objects. This may further add to the comfort of the user wearing the clip and phone.

The clip (300) can be hooked onto a belt (12) via the attachment clip (350) as shown in FIGS 1H and 1I. The clip (300) can be

used to secure anything the plug (400) can be attached to, such as a retractor (100) or mobile phone (10) as shown in FIGS 1H and 1I.

Clip with quick release mechanism for single pin

FIG 1J to FIG 1O show another embodiment of a clip (302) comprising an adjustable aperture suitable for securing a pin of an attachment member in a "quick release" manner as described herein. The operation of the clip (302) for capturing a capture member is the same as described above.

Two plates (360) and (361) are mounted to the rear of the clip (302). Plate (360) is fixed whilst plate (361) is reciprocal mounted and biased toward plate (360) by a helical spring (370). Arcuate apertures (362, 363) are located in each plate forming an adjustable aperture. A knob (364) forms part of plate (361) and is accessible from a side of the clip (302).

A back cover plate (380) forms the rear of the clip (302). Holes (381) and (382) are used to located screws (not shown) to attach the cover plate (380) to the body at threaded holes (321a, 322a). Hole (383) is used for location of a pin (390) shown in FIG 1K.

The pin (390) has a head (391) and a shaft (392). A channel (393) is located on the shaft (392). The pin (390) is used to attach the clip (302) to an object such as a garment or a belt.

The pin (390) is connected to the clip (302) by passing the shaft (392) through the hole (383). The end of the shaft (392) engages with the arcuate apertures (362, 363) and forces the plate (361) away from plate (360). Plates (360, 361) then engage the channel (393) to grip the pin (390).

The pin (390) can be removed by moving the knob (364) upwardly causing the plate (361) to be moved away from plate (360) as shown in FIG 1O. This causes the arcuate apertures (362, 363) to release the channel (392) allowing the pin (390) to be removed.

5 The clip may have a number of different means of attachment to an object, such means including attachment members described above and shown in FIGS 1P-1S. FIG 1P shows an embodiment of an attachment member having an adhesive strip (305) attached to its rear so that the clip (302) can be attached to a suitable flat surface such as a wall. A removable
10 protective cover (305a) covers the adhesive strip (305) prior to use. FIG 1Q shows an embodiment of an attachment member as an attachment clip (350) attached to clip (302). The attachment clip (350) comprises a pin (not shown) similar to that shown in FIGS 4G and 4H. FIG 1R illustrates insertion of an attachment member, shown as pin (390), to clip (302). This is also
15 shown in FIG 1K. FIG 1S shows an attachment member as a loop (307) attached to the body (301) of clip (302). The loop (307) can be placed on a belt so that the clip (307) cannot be accidentally removed providing additional security. These attachment members, or similar variations thereof, may be used with other embodiments of the clip.

20 **Clip with quick release mechanism for two pins**

FIGS 2A-3D show another embodiment of a clip (600). The operation of the clip (600) for capturing a capture member is essentially the same as described above for the other forms of the clip. Namely, a capture member may be located and captured within a capture zone (311) and two

independently operating gates are located adjacent opposite openings (310a, 310b) of the capture zone (311). A first gate is shown as an entrance gate in a form of a depressible plate (612) and a second gate is shown as an exit gate in a form of an exit pin (330). The clip (600) may also comprise a
5 locating channel (340) that tapers towards the entrance of the capture zone to direct the capture member(s) towards the opening (310a) of the capture zone (311) in a similar manner as for the other forms of the clip.

Clip (600) differs from the previous forms by being adapted to secure an attachment member by two pins using a "quick release"
10 mechanism as described hereinafter. Also, exit pin (330) of clip (600) is biased by a spring (306) located at an end of exit pin (330) that is inserted into hollow chamber (367). Exit pin (330) is retained within hollow chamber (367) by pin (366) that attaches to exit pin (330) and extends into oval shaped aperture (304) as shown. A back cover plate (611) has also been
15 modified as described.

The capture zone (311) may further comprise an insert or liner (311a), for example as shown in FIG 3D. The liner is essentially a tube with a continuous longitudinal slit cut through one wall of the tube. The slit allows for passage of a neck portion of a plug when the plug is located in the liner of
20 the capture zone. The liner may increase the durability of the channel as the liner may be made of any suitable material, which may differ from the body of the clip. For example, the liner may be stainless steel, a material that reduces friction and wear caused by the capture member moving within the capture zone, a material the same as that of the capture zone or any other

suitable material. The liner may be used with any of the embodiments of the clip as described herein.

As seen in FIGS 2A and 2B, clip (600) comprises a body (601) and two plates (602, 603) mounted to a rear of body (601). Body (601) has threaded holes (617, 618, 619) for attaching a back cover plate (611), treaded holes (620, 621) for attaching an attachment member using screws and holes (608a, 609a) for locating pins of an attachment member as described in more detail hereinafter. An oval shaped aperture (304) connects to hollow chamber (367) so that pin (366) may be located within aperture (304) when attached to exit pin (330). A recess (665) is suitable of retaining spring (610) as shown. Stops (666) limit inward movement of plates (602, 603).

Each plate (602, 603) comprises an arcuate edge and a pair of hook members extending therefrom. Plate (602) has hook members (604, 605) and plate (603) has hook members (606, 607). Each plate (602, 603) is slideably mounted relative to rear of body (601) of clip (600) and are biased against each other by helical spring (610). Tabs (602A, 603A) shown in FIG 3D projecting from respective plates (602, 603) are insertable into recess (665) shown in FIG 2G. Tabs (602A, 603A) stop outward movement of respective plates (602, 603). Stops (666) limit forward movement of plates (602, 603).

Respective adjustable apertures (608, 609) are formed by respective hook members (604, 606) and (605, 607). As will be discussed in more detail hereinafter, respective adjustable apertures (608, 609) are

suitable for repeatedly receiving and retaining a fastener such as a pin for "quick release" and attachment of an attachment member.

As shown in FIGS 3A-3C, a back cover plate (611) is attachable to rear of body (601) of the clip (600) by way of screws (660, 661, 662) as shown in FIG 3D. A depressible plate (612) is contiguous with back plate (613) and is locatable within the locating channel (340). Back plate (613) comprises holes (614, 615, 616) used to located screws (shown in FIG 3D) to attach back cover plate (611) to rear of body (601) of clip (600). Threaded holes (617, 618, 619) located on rear of body (601) of clip (600) shown in FIGS 2A, 2B and 2G align with respective holes (614, 615, 616) of back plate (613) thereby allowing access of attachment screws (660, 661, 662) shown in FIG 3D to attach back cover plate (611) to rear of body (601) of clip (600).

Holes (620a, 621a) of back cover plate (611) are used to locate screws for mounting an attachment member, for example looped attachment member (624) shown in FIGS 4A and 4B, to rear of body (601) of clip (600) via respective screws threaded into threaded holes (620, 621). The attachment members described herein for "quick release" and attachment to the clip (600) may likewise be attached to the clip (600) using screws.

Alternatively or in addition, attachment members may be attached to the rear of body (601) of clip (600) via securing pins. The securing pins may be conical or rounded as described hereinafter. Holes (625, 626) of back cover plate (611) are used for locating respective conical pins (627, 628) and rounded pins (629, 630) that are respectively attached to

plate attachment member (635), plate attachment member (633), clip attachment member (634) and hook attachment member (680) shown in FIGS 4A-4N. The respective attachment members (624, 633, 634, 635, 680) attached to rear of body (601) of clip (600) using securing pins may be quickly and easily attached and released (i.e. detached) in a "quick release" manner as described herein.

Embodiments of attachment members (624, 633, 634, 635, 680) suitable for use with the abovementioned embodiment of clip (600) are similar for those described for embodiment of clip (302). However, one noticeable difference is a pair of pins that are removably insertable into respective adjustable apertures (608, 609). It will be appreciated that attachment members comprising two or more pins have an advantage over a single pin in that two or more pins prevents rotation of the attachment member relative to the clip and also provides a more sturdy attachment.

As mentioned above, a pin may have a pointed or conical head as shown in FIG 4D for a plate attachment member (635) or a rounded head as shown in FIGS 4E and 4F for plate attachment member (633), FIGS 4G-4I for clip attachment member (634) and FIGS 4J-4N for hook attachment member (680).

Pins (627, 628) are shown in FIGS 4C and 4D attached to an oval base plate, each pin comprising a conical head (636) and respective shaft (637). Channels (638, 639) are located on each shaft (637) as shown to allow securing of the pin to clip (600) via adjustable apertures (608, 609) by engaging within either channel (638, 639) depending on a thickness of

material the pin is passed through.

Conical pins (627, 628) of plate attachment member (635) are used to attach clip (600) to an object such as a garment, backpack, belt or similar object. Conical pins (627, 628) may be inserted through a garment, to sandwich the garment between rear of body (601) of clip (600) and plate attachment member (635). Conical pins (627, 628) are attached to clip (600) by passing respective heads (636) and shafts (637) through respective holes (625, 626) of attached back plate (611), into respective adjustable apertures (608, 609) and into respective holes (608a, 609a) of rear of body (601) of clip (600). Respective heads (636) of each pin (627, 628) are received by and engage respective adjustable apertures (608, 609) and forces each plate (603, 602) away from each other thereby opening each adjustable aperture (608, 609).

FIGS 2A and 2B show adjustable apertures (608, 609) formed by respective pair of hook members (604, 606) and pair of hook members (605, 607). FIG. 2A shows adjustable apertures (608, 609) in an open position and FIG. 2B shows apertures (608, 609) in a closed position. As plates (602, 603) are biased by spring (610), hook members (604, 606) and hook members (605, 607) are also biased so that adjustable apertures (608, 609) are in a closed position suitable for engaging channels (638 or 639) to grip or secure each pin (627, 628) within the channel of the pin.

Pins (627, 628) can be removed by applying a force on arcuate ends of plates (602, 603) towards the centre of clip (600) against biased helical spring (610). In doing so, adjustable apertures (608, 609) each widen

or open (see FIG. 2A), thereby releasing respective channels (638 or 639) of respective pins thereby allowing for release of the respective pins. In a preferred embodiment shown, a force must be simultaneously applied on arcuate ends of plates (602, 603) towards the centre of clip (600) to release the pins. This prevents inadvertent release of the pins if only one of the two arcuate ends of the plates is depressed, for example by accidental hitting of an object.

Respective rounded pins (629, 630) shown in FIGS 4E and 4F for plate attachment member (633) and respective rounded pins (629, 630) shown in FIGS 4G-4I for clip attachment member (634) are similar to the conical pins shown in FIGS 4C and 4D, however, the heads are rounded. Each rounded pin (629, 630) comprises a head (640) and shaft (641) having a channel (642). Item numbers shown for rounded pin (629) refer to like structures for rounded pin (630), which are not numbered. A similar action as described above for conical pins (627, 628) is used to insert and remove rounded pins (629, 630) from clip (600).

A rounded head (640) may be desired when an attachment member (633, 634) is not attached to an article of clothing or piece of cloth; a conical pin may assist with passing the pin through a cloth. A rounded head may avoid unwanted sharp contact with an object or a user's skin that may inadvertently be damaged or scraped.

Plate attachment member (633) shown in FIGS 4E and 4F may be used to secure clip (600) to a surface such as a dashboard of a car or surface of a desk or wall. In this form, the attachment member may be

adhered to the dashboard by applying an adhesive to back surface (643).

Useful adhesives include clues, adhesive tapes and an adhesive strip.

Clip attachment member (634) shown in FIGS. 4G-4I comprises a plate (644) forming a clip that may be used for securing clip
5 (600) to a belt, pocket or other object. Clip attachment member (634) is shown as a contiguous U-shaped plate (644). However, it will be appreciated that the clip attachment member (634) may have other suitable configurations, for example plate (644) may be spring biased and may be comprised of a single or multiple pieces hinged together.

10 Plate (644) has a retaining member (631) as shown to assist with securing the clip attachment member (634) to the item. For example, a belt may be located within a space (632) of the attachment member (634). Clip attachment member (634) in another embodiment may not comprise the retaining member (631).

15 Looped attachment member (624) shown in FIGS 4A and 4B comprises a loop (645) that may be used to secure the clip to a belt or other strap. Looped attachment member (624) has holes (646, 647) for locating screws (622, 623) to attach the looped attachment member (624) to the clip.

The looped attachment member may also comprise rounded pins similar to
20 pins (629, 630) to attach to the clip in a "quick release" manner as described herein, not shown. Accordingly, looped attachment member (624) may be secured to the clip by screws and/or pins. The other attachment members may likewise be attached to the clip via screws and/or pins.

Hook attachment member (680) is shown in FIGS 4J-4N as

comprising a body (681) and a hook end (682). Body (681) comprises two rounded pins (683), however, other suitable number of pins may be used and the pins need not necessarily be rounded, eg. may be conical as described herein. Hook attachment member (680) attaches to a rear of clip (600) in a similar manner as attachment members shown in FIGS 4C-4I. Namely, pins (683) are removably insertable and retainable in adjustable securing apertures (608, 609) of clip (600).

In the embodiment of hook attachment member (680) shown in FIGS 4J-4N, an opening (684) permits locating the hook attachment member (680) onto a belt loop, ring, handbag or other item. There is no need to close the opening (684) with a gate that is typically associated with a standard karabiner, shown for example in FIGS 17A-18C. Instead, when hook attachment member (680) is attached to a rear of clip (600), the clip (600) covers the opening (684) as shown more clearly in FIG 4M. In this manner, clip (600) will remain secure to the item it is attached to in a secure manner.

When the clip (600) is to be removed from the item, plates (602, 603) are pressed inward to open adjustable securing apertures (608, 609) thereby releasing pins (683) therefrom. When hook attachment member (680) is released from the backside of clip (600), opening (684) is exposed so that the item may be unhooked from the hook attachment member (680).

Although a preferred embodiment is shown in FIGS 4J-4N for hook attachment member (680), other embodiments are contemplated. For example although a gate is not shown, it will be appreciated that a gate,

biased or unbiased, may likewise be attached to a backside of clip (600). Such an embodiment may resemble a more typical karabiner with a biasing means to close the gate to thereby secure the clip (600) to an item. Suitable types of karabiners include those shown in FIGS 17A-18C.

5 Hook attachment member (680) also permits movement of clip (600), for example, when attached through a belt loop. When the clip is attached to a phone, the phone may be moved and positioned by the user by moving the clip. This additional movement may further allow the user to easily view a display of the phone without detaching the phone from the clip.

10 This has advantages as described above for view SMS text messages and the like.

 It will be appreciated that the abovementioned attachment members may be easily and quickly interchanged because of the use of the pins and "quick release" locking mechanism of the clip. Each attachment member when secured to the clip is firmly attached thereto. Accordingly, 15 unintentional detachment of the attachment member is avoided or is unlikely even when brushed against objects such as tables, walls and bushes. Also, each attachment member may have any suitable shape, for example, round, square, rectangular, etc. Although the figures show fasteners including 20 screws and pins, other fasteners may be used as selected by a skilled person. Other fasteners include bolts, rivets, welds and the like.

 An embodiment of the invention also includes an attachment member that is permanently fixed to the clip and accordingly is not interchangeable. Also, although two pins are shown for clip (600), any

suitable number of pins may be used, for example a single pin or any number greater than two pins.

Clip comprising capture zone with single opening

In another embodiment of the invention is shown in FIGS 19A-
5 19F wherein the clip (800) comprises a body (801), capture zone (811) shown as a recess in a form of a canal, gate (830) shown as a pin and locating channel (840). A liner (not shown) may also be inserted into the capture zone (811) as describe above for other forms of the invention.

The capture zone (811) comprises an opening (812), e.g. an
10 entrance, that allows the capture member(s) to enter and exit the capture zone (811). At a bottom end (813), the capture zone (811) is closed so that a capture member may not exit from the bottom end of the capture zone.

The gate (830) is located at the entrance of the capture zone and the gate capable of being opened to allow capture member(s) to pass
15 through the entrance to be located in the capture zone (811) and removed therefrom. When the gate (830) is closed, the capture member(s) are retained within the capture zone (811) and thus captured therein. The gate (830) is opened by moving the pin to align the entrance (812) with groove (831) as shown in FIG 19F. The gate is closed by moving the pin so that
20 groove (831) no longer aligns with the entrance (812) and instead the entrance is blocked by pin as shown in FIG 19D. FIG 19 E shows transition of gate (830) from an open and closed position. The gate (830) is secured in an open or closed position by a retaining ball (834) that is locatable in either groove (832) or groove (833). The retaining ball (834) is biased by spring

(835) towards the pin. It will be appreciated that the gate may have other forms, for example, the gate may be opened and closed by rotating a pin comprising a groove so that the groove aligns with the entrance in an open position and the pin can be rotated so that the groove no longer aligns with the entrance.

The locating channel (840) is shown tapering towards the entrance of the capture zone and may assist with directing the capture member(s) towards the entrance (812).

A backside of the clip (800) is shown in FIG 19C having threaded holes (817, 818, 819) for attaching a back cover plate (611) not shown. Threaded holes (819, 820) are for locating screws for attaching an attachment member as described herein for other forms of the clip. The backside of the clip (800) may be the same as any of the other forms of the clip (300, 302, 600) as discussed herein. Namely, an attachment member is attachable to the backside by fasteners including screws and/or pin(s) via a quick release mechanism as described herein. It will be appreciated that clips comprising a similar backside configuration, e.g. same means for attaching an attachment member, allows for sharing and quick changing of attachment members to respective clips.

It will also be appreciated that the abovementioned clips allow for insertion and removal of a capture member from the capture zone using only a single hand. This is an improvement over other clips.

This form of the clip (800) may be useful for example when the clip is attached to a wall, car interior or side of a desk. For example, a

mobile phone attached to a capture member may conveniently be placed within the capture zone with the gate secured in an open position. Gravity will tend to keep the phone within the capture zone at a location adjacent the closed bottom end of the capture zone (811) when the clip is orientated with the entrance upwards. With the gate (830) secured in an open position, the phone may easily be repeatedly inserted and removed from the capture zone (811). The gate (830) may be closed thereby capturing the capture member and preventing inadvertent exiting from the capture zone (811), but this may not be required or desired during repeated use of the phone.

10 Capture member/detention member

FIGS 5A to 5J show an embodiment of a capture member in the form of a plug (400). The plug (400) comprises a plug body (410) and connecting pin (420). The connecting pin (420) is pivotally mounted to the plug body (410) and includes a head (421) and a stem (422). The connecting pin (420) is attached to body (410) by way of a retaining bar (423) forming a hinged connection. The pivotal movement of the connecting pin (420) relative to the plug body (410) allows an object the plug is attached to be oriented in a desired manner. For example, and as shown in FIG 5J, the plug body (410) is able to extend downwardly with respect to the capture zone (311) as opposed to extending outwardly if the connecting pin (420) was fixed to the plug body (410).

FIGS 6A to 7K show plugs that are attachable directly to the mobile phone (10). In FIGS 6A to 6F the plug (401) is attached to the phone using an adhesive tab (430). The tab (430) is adhered to the mobile phone

(10) and a cylinder (440) placed onto the tab (430). A bracket (450) is located over the tab (430) with the edges of the bracket (450) being adhered to tab (430). A connecting pin (460) is attached to the cylinder (440) using an associated thread hole (441) in the cylinder (440) and threaded stem (461) of the connecting pin (460). A top plate (470) is placed over the connecting pin (460) and onto the bracket (450) to complete assembly of the plug (401).

A further adhesive cover (471) can be placed on the rear of mobile phone to assist in protecting the mobile phone (10) from any damage due to everyday use.

Plug (401) allows the mobile phone to move three dimensionally so that the phone is able move both up and down, and side to side, in a universal motion when located in the clip. As shown in FIG. 6C, the pin and attached phone can move 180° up and down and also spin 360° flat against the clip as well as perpendicular to the clip. Embodiments are also contemplated wherein up and down (hinge) movement is less than 180°, for example 45°, 90° and 105°. Such an embodiment may include a stopper to stop movement to less than 180° and/or a biasing means, for example a spring, to return pin (460) to a position flush or nearly flush with a back side of a phone. Further, a ratchet-like means may incrementally retain pin (460) as a particular angle.

Alternatively, plug (401a) may be prefabricated as a hinged pin with base (472) and connecting pin (460) as shown in FIGS. 7A and 7B. A bottom side (473) of base (472) may be adhered to the mobile phone.

Connecting pin (460) is moveable as shown by the arrow in FIG. 7B. The mobile phone (10) can then be attached to a clip (300 or 600).

Like the embodiment shown in FIGS 6A-6F, the plug shown in FIGS 7A and 7B allows the pin and attached phone to be moved 180° up and down or any angle therebetween and spin 360° when located in the capture zone of a clip as described herein.

The plug may also have other useful embodiments as shown in FIGS 7C-7KP. FIGS 7C and 7D show an embodiment of a plug (490) comprising a head (491), neck (492) and base (493) rigidly attached to each other. Length of neck (492) may be any suitable length and in one embodiment is relatively short (about 0.5 cm or less). A fixed angle of connecting pin (492) to base (493) may be any suitable angle, for example 90° as shown in FIGS. 7C and 7D, or 45°, or any other angle. Base (493) may be adhered to the back of a mobile phone. This plug does not hinge, but when attached to the clip as describe herein, the plug can rotate flat against the clip 360°.

FIGS 7E and 7F show a plug (650) comprising a body (654) and pin (651) having a head (652) and a neck (653). The pin (651) is rotatable 180° or less about pivot point (655) of body (654) as shown by an arrow in FIG 7E. When plug (650) is attached to a phone, the pin (651) is rotatable in a plane parallel to a backside of the phone. When the pin (651) is used to attach the phone to the clip or clasp of the invention, the pin (651) is rotated outwardly so that the pin (651) extends beyond the body (654) and typically beyond an outer end of the phone to which the plug (650) is

attached. The pin (651) can be rotated to a retracted position and secured in groove (656) when not in use. The plug (651) may also be biased and/or ratcheted so that pin (651) can be fixed at a desired angle relative to the body (654). It will be appreciated that although the pin (651) is shown rotatable 180°, other angles of rotation are contemplated for other embodiments, for example embodiments of the plug providing rotation of an angle between 0-360° or freely rotatable about a fixed pivot point. FIG 7F shows a plan view of the plug (650) with the pin (651) in both extended and retracted positions.

10 In another embodiment, plug (670) has a bayonet-type form as shown in FIGS 7G-7I. Plug (670) is extendable from a retracted position shown in FIG 7H to an extended position shown in FIG 7I. When extended, pin (671) may be easily located in the capture zone of the clip or detention zone of the clasp. Pin (671) has a head (672) and a T-shaped end (673).
15 Head (672) is insertable into the capture zone of the clip or detention zone of the clasp. The T-shaped end (673) fits into a groove (674) when the pin (671) is extended outward to thereby secure the pin as shown in a partially cut-away plan view of body (672a) in FIG 7I. The extended pin (671) in another embodiment is hinged to allow additional movement.

20 Another plug (675) shown in FIGS 7J and 7K comprises a flat plate (676), neck (677) and head (678). The plug (675) is attached to a phone by adhering the flat plate (676) to a backside of the phone. The length of neck (677) may be of any suitable length selected by a person skilled in the art. Preferably, the neck is of sufficient length to extend beyond

an outer end of the phone. This plug, like the other plugs, may be joined with the clip or clasp as described herein, or with any other suitable device.

The abovementioned plugs and pins may be made of any suitable material, but are preferably made of metal, more preferably stainless steel. The abovementioned plugs may be joined with any suitable partner, but are preferably joined with the clip or clasp as described herein. Accordingly, any one of the plugs described herein may fall within the definition of a "*capture member*" and/or "*detention member*". Capture members and detention members include other members not described herein that a skilled person could select that are capable of being captured or detained within the capture zone or detention zone.

A user wearing the clip with the phone attached via a plug as described herein can sit down without the mobile phone digging into the side of the user or damaging the clip. Further, the mobile phone can be attached to the clip whilst a user is sitting. Also, as shown in FIG 7B for example, plug (401) is relatively thin in comparison to a typical clip that attaches to a backside of the phone. This reduces an outwardly extending profile of the phone when attached to the clip. As seen for example in FIGS 6C and 6F, plug (401) allows the phone (10) to hang at least partially below the clip (300) thereby minimising an outwardly extending profile of the phone (10) when attached to clip (300). Minimising the outwardly extending profile of the phone with clip may reduce accidental damage by hitting or brushing against objects.

The plug may be attached to a phone so that a user can simply

view the phone in a correct orientation (ie. so that the screen or display and numbers are orientated right-side up) to read a display, screen, keypad, numbers and the like by lifting and/or turning the phone at any angle relative to the clip. For example, the plug may be attached at a bottom backside of the phone as shown in FIG 6F. Accordingly, in this manner, the phone can be viewed without need to disconnect the phone from the clip. It will be appreciated with recent trends in mobile phones there has been an increase in SMS text messages or visual-type messages that are visually displayed. Such messages do not require audio-communication and accordingly, it is not necessary to position the phone adjacent a user's head to communicate. In this situation, the display of the phone may be viewed without removing the phone from the clip of the invention. This is not only more convenient, but also reduces a risk of dropping or losing the phone in situations where the phone does not need to be held adjacent the user's head.

The ability to universally rotate the phone relative to the clip in the described embodiments further facilitates viewing the phone while attached to the user. This is an advantage over the known clips that require the phone to be unclipped from a stored location, eg. a belt.

Universal movement of the phone also allows for the phone to hang in a position such that an antenna of the phone is located away from a user's body. The present invention by allowing the phone to rotate such that the antenna is facing away from the user's body reduces radiation exposure thereby reducing SAR (Specific Absorption Rate). This reduces potential health risks associated with exposure to SAR. Many phones typically have a

built in antenna located on a backside of the phone opposite a side having an ear and mouthpiece. If the phone is attached using typical known clips that attach to the backside of the phone, the antenna faces the user's body. This needlessly exposes the user to an increased level of potentially harmful radiation that may be avoided by using the present invention.

In summary, embodiments of the plug described herein when attached to the phone allow the phone to hang at least partially below the clip, provides rotation of the phone so that the phone may be viewed while attached to the clip and allows for an antenna of the phone to be located away from the user's body.

FIGS 8A and 8B show how one embodiment of a fixed plug (402) is attached to a line member (150). An elongate opening (480) forms part of the plug (402) where the line member (150) is located. A crimp (481) is placed over the line member (150) and the crimp (481) and line member (150) are located within the opening. A screw (482) is taped trough the plug (402) and engages the crimp (481) to hold the crimp (481) in place.

Attaching a line member to a capture member/detention member

FIGS 8C-8H show another embodiment of how a fixed plug (700) is attached to a line member (150). In this embodiment, plug (700) comprises a body (703) having a body cavity (702) and a connecting pin (760) with ball-end (761). Connecting pin (760) and ball-end (761) may be used to attach to a clip (302, 600) or clasp (500) for example as described herein.

Internal member (701) is removably located within body cavity

(702) of body (703). Internal member (701) comprises two (2) channels (704, 705) as shown for retaining respective ends of a line member (150). Ends of line member (150) are respectively placed within each channel (704, 705) so that each knotted end of line member (150) is located on an outer
5 end of internal member (701) as shown in FIG. 8D. The knot prevents line member (150) from slipping through respective channels (704, 705).

Internal member (701) with knotted ends of line member (150) secured is inserted into body cavity (702) of body (703) so that line member (150) passes through aperture (706). In this way, line member (150) is
10 attached to fixed plug (700) thereby forming a looped line member (150). The fixed plug (700) is shown with a rubber outer boot (707) for covering and additional securing of internal member (701) within the cavity.

Fixed plug (700) may also have an aperture (770) located as shown in FIGS 8C-8H for attaching a fastener (771) shown as a ring.
15 Although a ring is shown, other fasteners may be used, including for example, a string, lanyard, clip or the like. The fastener (771) may be used for example for attaching plug (700) to a phone by way of existing attachment apertures on the phone, (see FIG 11). Fastener (771) may be attached to any suitable item, for example keys, camera and pocket-knife.

20 Other means for securing a line member within plug (700) are contemplated including for example knotting both ends of the line member together so that the knot is larger than aperture (706), thereby preventing the knotted end of the line member from passing therethrough. Also, a cord lock or crimp may be used to secure an end of the line member within cavity

(702).

Clasp

FIGS 9A to 9D show a clasp (500) comprising a first member shown as a base member (520) and a second member shown as a slide member (510). The base member (520) has a T-shaped track (521) that extends substantially the length of the base member (520). The slide member (510) has a T-shaped carriage (511) that is located substantially at the middle of the slide member (510).

The carriage (511) fits snugly within the track (521) so that the slide member (510) is reciprocateable with respect to the base member (520). A spring (501) is located within a spring recess (502) located within the base member (520). The spring (501) abuts against the carriage (511) to bias the slideable member (510). A screw (503) is taped through the base member (520) at threaded aperture (503a) and is positioned after the carriage (511) is located within the track (521). The screw (503) limits the travel of the carriage (511) within the track (521). A detention zone (530) is formed in base member (520) and is covered by slideable member (510).

FIG. 9E shows an embodiment of clasp (500) comprising a means for attaching a line member (150) to the clasp (500). In this embodiment, a line member may have either each respective end knotted or both ends knotted together. As shown in FIG. 9E, base member (520) comprises at an end opposite detention zone (530) circular recesses (550, 551, 552) for retaining an end of a line member (not shown), for example, a lanyard, string, chain, cable or other similar type member.

Recesses (550, 551) may each receive a knotted end of a line member thereby forming a loop. For example, one end of the knotted line member may be located in recess (550) such that the string passes through respective access channels (555, 553) and the opposite end of the knotted line member may be located in recess (551) such that the line member passes through access channels (555, 554). Alternatively, an end of a knotted line member comprising both ends of a string tied together, or cable or chain, may pass through only access channel (555) to be located in recess (552).

It will be appreciated that clasp (500) may have any suitable external shape that may facilitate movement of the slide member (510) relative to the base member (520).

FIGS 10A and 10B show the operation of the clasp with a detention member. To locate a detention member, shown as plug (402), within the clasp (500), the slide member (510) is slid to a first position so that a head (403) of the plug (402) can be located within the detention zone (530) and the stem can be located within the track (522). This causes the carriage (511) to compress the spring (501). When the head (403) has been located within the detention zone (530), then the slide member (510) is released allowing the spring (501) to expand and act on the carriage (511). This causes the slide member (510) to close over the detention zone (530) detaining the plug (402) in a second position.

FIG 11 shows a clip (600) attached to a belt. Clip (600) secures a plug (700) which is attached to a phone (10) via a line member

shown as a lanyard (150). Plug (700) may also be attached directly to the phone (10), for example by attaching a securing ring to an existing attachment point on phone (10). FIG 11 also shows a camera (10A) attached to a belt loop via a plug (700) attached to a clasp (500) that is
5 attached to a belt loop via a lanyard. Other combinations of clip, clasp and plug are contemplated and such combinations would be ascertainable by a person skilled in the art.

Retractor

FIGS 12A to 18C show a retractor (100) according to an
10 embodiment of the invention. The retractor comprises a housing (110), reel (120), coil spring (130), insert (140) and line member (150).

The housing (110) is formed from a first housing part (111) and a second housing part (112). The first housing part (111) and second housing part (112) may be constructed from a variety of materials such as
15 common plastics or metal. Apertures (113) are located around the periphery of the first housing part for attachment of the retractor (100) to an article, for example a karabiner as shown in FIGS 17A-18C.

The first housing part (111) includes an axle (114) to which the reel (120) is mounted. A threaded hole (115) extends substantially the
20 length of the axle (114). The second housing part (112) includes an attachment hole (116) that is located such that when the first housing part (111) and second housing part (112) are connected, the attachment hole (116) is in alignment with the thread hole (115). A screw (117) is located through the attachment hole (116) and screwed into the threaded hole (115)

to hold the first housing part (111) and second housing part (112) together. It will be appreciated that other means for holding together the first housing part (111) and second housing part (112) are contemplated, for example use of a rivet bolt or other suitable fastener. The first housing part (111) and
5 second housing part (112) may also be snapped together in another embodiment.

The first housing part (111) also includes a recess (118) into which the insert (140) is inserted. The insert (140) is located within the recess (118) by pushing the insert (140) into the recess (118). The insert
10 (140) is held within the recess (118) by an interference fit. Alternatively, as show in FIGS 16A and 16B, the recess (118) and insert (140) may be configured differently to hold the insert (140) within the recess (118). FIG 16A shows that the insert (140) has a channel (140A) located around its edge, whilst the recess (118) has a corresponding abutment (118A) located
15 around its edge. FIG 16B shows that the edges of both the insert (140) and recess (118) are angled. Although it is preferable that insert (140) is removable from recess (118), other suitable means for holding the insert (140) in recess (118) may include for example applying an adhesive to bond the insert (140) to the recess (118).

20 The insert (140) can contain advertising material, clock, lights, compass or the like as shown in FIG 16C and accordingly does not add to the function of the retractor (100). Inserts (140) can be interchanged using a slot (141) that is provided within the first housing part (111) as shown in FIG 16D. The slot (141) allows an instrument, such as a screwdriver or knife, to

access the edge of the insert (140) to pry it lose from the recess (118).

The reel (120) includes two reel parts that are mechanically joined together using a snap lock. The reel (120) has an inner chamber (121) and outer channel (122). The coil spring (130) is located within the inner chamber (121) and is connected to the axle (114). The line member (150) is wrapped around the outer channel (122) and is connected to the coil spring (130). Lubricating washers (123) are located on both reel parts to allow the reel to the rotate easily within the housing (110).

The line member (150) is made from a high strength material that cannot be easily broken or cut. The line member (150) passed through an exit hole (119) in the housing after passing through a stop member (160) as shown in detail in FIGS 12A, 12D and 12E.

The stop member (160) comprises a stop pin (161), casing (162), abutment member (163) and helical spring (164). The stop pin (161) is located within the casing (162) such that the stop pin (161) is biased outwardly from the casing (162). A stop hole (165) is provided with the stop pin (161) and the line member (150) is fed through the stop hole (165). The line member (150) is forced to abut against the abutment member (163) unless the stop pin (161) is depressed. The stop pin (161) extends outwardly through the housing (100) and can be depressed externally from the housing (110).

The retractor (100) is operated by pulling the line member (150) from the retractor (100). This causes the reel (120) to be rotated about the axle (114) and the spring (130) to tighten. The line member (150) also

causes the stop pin (161) to depress and hence allows the line member (150) to pass through the stop hole (165) when being pulled. However, the line member (150) is caused to abut against the abutment member (163) when the line member (150) is not being pulled, preventing the line member (150) from being retracted. When it is desired that the line member (150) is to be retracted, the stop pin (161) is depressed providing clear passage of the line member (150) through the stop hole (165). The spring (130) recoils the reel (120) causing the line member (150) to be wrapped back around the outer channel (122).

FIG 13A to 13C show how the retractor can be attached directly to a mobile phone. In this embodiment, an attachment screw (180) is provided that has a flat head (181) onto which adhesive is applied. A protective sheath (182) is removed to allow access to the adhesive and the head (181) is placed onto a desired location on the mobile phone (10). The attachment screw (180) is then located through the attachment hole (116) and screwed into the threaded hole (115) of the retractor (100).

FIG 14A to 14C show another embodiment of the attachment screw (180). In this embodiment, the screw is attached to a casing (11) that covers a mobile phone (10). The attachment screw (180) is attached to the casing (11) using conventional means such as sewing the attachment screw (180) into the casing (11). The attachment screw (180), as described previously, is located through the attachment hole (116) and screwed into the threaded hole (115) of the retractor (100).

FIGS 15A to 15E show how the retractor (100) can be attached

to a garment or the like article. In this embodiment, an attachment pin (190) and a backing plate (191) are used. The attachment pin has a screw thread (192) that is attached to the retractor (100) as previously described. The attachment pin (190) is then located through a garment (193) onto which the retractor (100) is to be attached. The backing plate (191) is then placed onto the attachment pin (190) to prevent removal of the attachment pin (190) from the garment (193). FIG 15D shows the phone (10) attached to line member (150) via clasp (500) that is attached to plug (400). Clasp (500) and plug (400) are described in detail herein. Plug (400) may also be attached to clip (600) as described herein, for example for embodiments shown in FIGS 13C and 14C.

FIGS 17A to 17D show a karabiner (200) that can be attached to the retractor (100). The karabiner (200) has been modified so that it has a series of spaced apart projections (201) located on an arcuate portion of the karabiner (200). Two of the projections are fixed whilst the other projection (201A) is adjustable.

The projections (201) are used to attach the retractor (100) to the karabiner (200) by locating the projections (201) within the apertures (113) on the periphery of the housing (110). The retractor (100) is locked to the karabiner (200) by screwing the adjustable projection (201A) inwardly with respect to the arcuate portion of the karabiner (200), so that the adjustable projection (201A) engages with the respective aperture (113). When this occurs, the retractor (100) cannot be removed from the karabiner (200). FIG 17D shows the retractor (100) attached to karabiner (200) and

attached to a phone (10) via a plug (400) and clasp (500).

FIGS 18A to 18C show a further embodiment of a karabiner (200). The retractor (100) is attached to the karabiner (200) in the same manner as previously described. Other configurations of karabiner (200) are possible as may be selected by a person skilled in the art. Also, the karabiner (200) may be attached to the retractor (100) using any suitable number of projections (201, 201A) as may be determined by a skilled person. Further, although it is preferred that the karabiner (200) and retractor (100) are able to be separated as described above, an embodiment wherein the karabiner (200) and retractor (100) are not separable, eg. adhered together, is contemplated.

It should be appreciated that various other changes and modifications may be made to the embodiments described without departing from the scope of the invention.

CLAIMS

1. A clip comprising:
a body;
5 a capture zone comprising a first and second opening, said capture zone being capable of capturing at least one capture member;
a first gate capable of blocking the first opening; and
a second gate capable of blocking the second opening;
wherein respective gates are capable of being opened to
10 enable at least one capture member to enter and exit the capture zone and said respective gates are capable of being closed to capture at least one capture member in the capture zone.
2. The clip of claim 1 wherein said first opening is an entrance and said second opening is an exit.
- 15 3. The clip of claim 1 wherein said first gate is an entrance gate and said second gate is an exit gate.
4. The clip of claim 1 wherein the capture zone is formed by a recess that extends there through.
5. The clip of claim 1 wherein said capture zone comprises an
20 insertable liner that extends substantially a length of said capture zone.
6. The clip of claim 1 wherein at least one gate is a depressible member.
7. The clip of claim 6 wherein the depressible member is a plate.
8. The clip of claim 7 wherein the depressible member is pivotally
25 attached to the body.

9. The clip of claim 8 wherein the depressible member is an entrance gate.
10. The clip of claim 3 wherein the exit gate comprises an exit member to allow the capture member(s) to be released from the capture zone.
- 5 11. The clip of claim 10 wherein the exit member is an exit pin.
12. The clip of claim 1 further comprising a locating channel that tapers towards the first or second opening of the capture zone.
13. The clip of claim 1 wherein a backside of the body is adapted to receive an attachment member.
- 10 14. The clip of claim 13 wherein the backside of the body comprises at least one receiving aperture for receiving a fastener.
15. The clip of claim 14 wherein the receiving aperture(s) is an adjustable aperture(s) biased to secure the fastener therein.
- 15 16. The clip of claim 15 wherein an attachment member is removably attachable to the backside of the body by at least one fastener via mating with the adjustable aperture(s).
17. The clip of claim 1 further comprising an attachment member attached to the body.
- 20 18. The clip of claim 17 wherein the attachment member is selected from the group consisting of: a loop, plate, clip and hook.
19. The clip of claim 17 further comprising a capture member located in the capture zone.
20. The clip of claim 19 wherein the capture member is attached to

a device.

21. A clip comprising:

a body;

5 a linear capture zone capable of capturing at least one capture member; and

a gate located adjacent the capture zone comprising one or more access notches located on an external surface thereof;

10 wherein said gate is movable from a closed position retaining the capture member(s) within the capture zone to an open position facilitating insertion and removal of the capture member(s) from the capture zone, whereby said open position is achieved by a respective access notch being aligned with the capture zone.

22. The clip of claim 21 wherein said gate is movable in a direction transverse to a longitudinal axis of the capture zone.

15 23. The clip of claim 21 wherein the gate comprises a pin.

24. A clasp comprising:

a body comprising:

a detention zone located in the body and adapted, in use, to detain at least one detention member;

20 a track located in the body; and

a carriage movable in the track;

whereby the carriage is movable in the track from a detaining position facilitating detaining of the detention member(s) within the detention zone to a position facilitating insertion and removal of the detention member

into and from the detention zone;

whereby the detention zone is aligned with the axis of the track.

25. The clasp of claim 24 wherein the carriage is adapted to move linearly relative to the body.

5 26. The clasp of claim 25 wherein the carriage is biased to be positioned in the detaining position.