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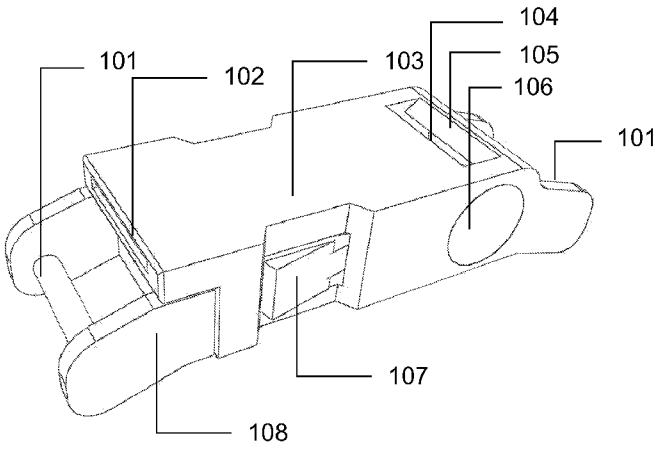

(57) Abstract: A multi-function clasp configurable to be worn on the body or carried on the body. In configurations, the clasp includes at least one of a plurality of small survival items chosen from a whistle, compass, a storage compartment, a light, and a timekeeping device. These clasps are configured for access to survival items that would normally be located in the backpack, car, or another hard to reach inaccessible location.

FIG.1

WO 2013/170043 A1

MULTI-FUNCTION CLASPS

BACKGROUND

[0001] Field of the Disclosure: The present invention relates to a multi-function clasps, and more specifically, a gear or bracelet clasps that incorporate any one of a plurality of small survival items for safety and emergency situations and configured to be attached to a band or cord to be worn or carried on the body.

[0002] Background: Generally, clasps come in a variety of shapes and sizes, and are configured as interlocking parts used for mechanically securing and/or joining cord, bands, belts, or other linear clothing pieces. However, beyond securing and joining linear clothing, these devices typically offer no other function.

[0003] Generally, carrying small survival items on a person during daily activities is difficult, if not entire unfeasible. Additionally, carrying these items during hiking, camping or back packing may be difficult. Some items are bulky and are inefficient uses for critical space in a backpack or gear pack. Other items are small, easily misplaced, shifted, or damaged in a backpack or gear pack. Particularly with small survival items they may be difficult to locate in backpack or gear pack during an emergency or survival scenario.

SUMMARY

[0004] The multi-function clasps according to the current disclosure include a device that is capable of operating as a clasp, wherein the clasp comprises and retains a plurality of small survival items. The multi-function clasp is configured to allow the user to always store essential survival items around the wrist or on other pieces of linear clothing, such as belts or gear straps. Generally, the ability to store survival items on linear material, linear clothing items or on the body allows both hands unrestricted and free.

[0005] Generally, the clasps disclosed here comprise a male body and a female body that interlocking together by a side release lock which may comprise of a spring assisted male body. A connection part may include a spring assisted side release male component that locks into place when inserted into the female counterpart.

[0006] Further, the multi-function clasps comprise at least one of a plurality of small survival items chosen from a whistle, compass, a storage compartment, a light, and a timekeeping device. In instances, the storage compartment is sealable against water or contaminant intrusion. In instances, the light may be a light emitting diode (LED) or a laser. Generally,

the small survival items are integrated into the female body of the clasp, the female body including a receptor for interfacing with interlocking features on the male body of the clasp.

[0007] Additional advantages of the disclosure will be set forth in part in the description which follows and in part will become apparent to those having ordinary skill in the art upon examination of the following or may be learned from practice of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The accompanying drawings, which are included to provide a further understanding of the disclosure and are incorporated in and constitute a part of this specification, illustrate preferred embodiments of the invention and together with the detail description serve to explain the principles of the disclosure. The drawings:

[0009] FIG. 1 shows a perspective view looking at the whistle wrist clasp assembled.

[0010] FIG. 2 shows a exploded view of the whistle wrist clasp.

[0011] FIG. 3 shows a perspective view looking at the compass wrist clasp assembled.

[0012] FIG. 4 shows a exploded view of the whistle wrist clasp.

[0013] FIG. 5 shows a perspective view looking at the mobile storage safety box wrist clasp assembled.

[0014] FIG. 6 shows a exploded view of the mobile storage safety box wrist clasp.

[0015] FIG. 7 shows a perspective view looking at the LED Light wrist clasp assembled.

[0016] FIG. 8 shows a exploded view looking at the light wrist clasp.

[0017] FIG. 9 shows a perspective view looking at the Laser Light wrist clasp assembled.

[0018] FIG. 10 shows a exploded view looking at the laser light wrist clasp.

[0019] FIG. 11 shows a perspective view looking at the watch wrist clasp assembled.

[0020] FIG. 12 shows a exploded view looking at the watch wrist clasp.

DETAILED DESCRIPTION

[0021] 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 clasp, 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 terminology used herein are for the purpose of description and should not be regarded as limiting.

[0022] OVERVIEW: A clasp according to the present disclosure relates to a multi-piece mechanical interlock for joining at least two pieces of linear clothing. In certain configurations described herein, the clasp comprises at least two body components: a male body that is configured to insert into, and interlock with a female body. Generally, the male body comprises resiliently motivated interlocking extensions and the female body comprises receivers for interfacing with the extensions. Also, while illustrated herein as a two component body, in certain instances it may be understood that the present disclosure may be modified such a plurality of male bodies may be configured to insert into a single female body. The alternative construction, wherein a plurality of female bodies may be configured to interlock with a single body is also within the scope of the present disclosure.

[0023] The clasp in certain configurations may be used to join ends of a length of linear material. In certain configurations, the linear material may be a strap, a belt, or a bracelet. The linear material may be a natural material such as leather or a synthetic material such as nylon, without limitation. Additionally, the linear material may be an extended length of an elastic material. In certain instances the linear material may comprise woven parachute cord, hereinafter "paracord."

[0024] More specifically, the present disclosure relates to configurations of a multi-function clasp that is worn on the body or clothing to provide direct access to, any one of a plurality of small survival items. These survival items may be configured as a whistle, a compass, a water resistant or waterproof safety storage compartment, a light such as a laser or LED, a watch, an alarm, and similar devices, without limitation. The multiple configurations and adaptability of these clasps allows for quick access to survival items that would normally be located in the backpack, car, or another generally inaccessible location. The clasps are to be worn on the body or clothing with a band or cord that coupled to each portion of the clasp body.

[0025] In configurations, a whistle clasp serves a dual purpose as a clasp and as an alarm instrument worn on a person. A whistle is an air instrument that makes a high pitch sound from the vibrations of air split by a labium vibrates within a hollow body. The clasp allows for quick access to a whistle by a release of the clasp. The whistle is available for quick emergencies when running, in dark alleys, nature, traveling or hiking/climbing. The small clasp attached may be worn with a bracelet for quick access. The whistle may not be configured as a separate entity and thus is integrated into the design of the clasp. It may not be used while assembled in the locked position and the clasp needs to be released first for the

whistle to be functional in some configurations. The whistle does not detach independently and is integrated into the design of the female body.

[0026] In configurations, a compass clasp can assist a person with directions or bearings without reaching for a compass in a pack, thereby reducing the necessity of searching in the pack. The compass clasp serves a dual purpose as a clasp and as a navigation instrument. The compass may attach to a wrist compared to other compasses that get lost, misplaced, or damaged in the aforementioned pack. In some configurations, the compass is configured to mount to the clasp female body. The male body is inserted into the female to lock the compass clasp.

[0027] In configurations, a mobile waterproof safety storage clasp serves a dual purpose as a clasp and a storage compartment. The safety storage compartment may be used in any outdoor situation to store medicine, sewing supplies, contact information, iodine tablets, fishhook/line, flint, earplugs, money, and other small items. The safety storage clasp permits transportation of medicine, vitamins and other capsules or pills. In one exemplary application, iodine tablets may be kept in the safety storage compartment to permit the purification of water in an emergency situation. Alternatively, flint may be stored inside the compartment to provide a fire starting means storable on an article of clothing or carried on a person, such as the wrist. Further, the waterproof safety compartment may store contact, medical, and other information for use in case of any emergencies.

[0028] In configurations, a light-emitting diode (LED) light clasp serves a dual purpose as a clasp and as a light source. The light is integrated into the clasp creating a multi-functional survival tool. The light clasp may be useful in the dark when a light source is needed. The LED Light clasp permits a user to retain a light source on their clothing or person. In instances, it may be used to illuminate keys, locks, tents, or other small objects for manipulation or when a small light is needed in an emergency. The light may also be used to illuminate the surroundings while one is hiking, camping, climbing, or any time when a light source is needed For example, in certain configurations, a beam of light may be activated with a push of a switch or button on the clasp. Alternatively, the light is activated by pressure applied to the switch cover.

[0029] In configurations, a laser light clasp serves a dual purpose as a clasp and as a laser light source. The laser clasp is useful when items out of arms reach may need to be identified and or to visually mark items while a person is hiking, camping, climbing, or other activities.

In some instances a red or green laser light is activated with a push of a switch or by pressure applied on the switch cover.

[0030] In configurations, a watch clasp serves a dual purpose as a clasp and as a watch. In addition to providing timekeeping, the watch clasp allows for the extra cordage and band length that may be useful in emergencies while outdoors in nature. Examples of these times may be when one comes across hanging food from trees against bears, broken bones, lashing to make shelter, raft, and any life threatening, emergency situations. The watch can also function as a clasp to fasten and secure items while outdoors and hiking when a clasp may be accessible. The watch clasp easily allows for quick release for the wrist with its integrated Male and female clasp design. The watch is integrated into the clasp creating a multi-functional survival tool.

[0031] Whistle: FIG. 1 shows a perspective view looking at the multi-functional whistle wrist clasp in the locked position. The whistle comprises of a male and female body. The whistle may be designed into the female body 103 with no protruding component or edges. Placing the nose flute 102 parallel to the male body 108 allows the whistle to have enough room for the resonant chamber to gather air that is split by the labium 105. The resonant chamber is sealed with a cap 106. The eyes 101 are located on both the male body 108 and female body 103 where the bracelet attaches.

[0032] As illustrated in the exploded drawing FIG. 2 in addition to FIG. 1, the male body 205 comprises of locking arms 204, which are pressured by a V-shape spring 203 that pushes the locking arms 204 into the locked position when the male body 205 into the female body 210. Locking arms 204 are pivotable arms extending from pin 211 to detent 212. Pins 211 extend through arms 204. Pins 211 are configured as a pivot and comprise any suitable material for pivoting, for example metal. The V-spring 203 comprises a piece of resilient material, for example metal without limitation. V-spring 203 is configured to resiliently flex about the fold and return to approximately the original angle. Further, pins 211 couple arms 204 to male body 205. V-spring 203 elastically urges locking arms 204 in opposite arcs from pins 211. Male body cover 202 fits over V-spring 203; which pushes the arms 204 into the locked position after male body is inserted into the whistle female body 210. Male Cover 202 retains V-spring and arms on the male body. The locking arms 204 include detents 212 that releasably retain female body 210 features 206, 208, 208, 209, within the passage 213 of female body 210. The clasp may be configured to release from the locked position for using the whistle. In this case, the arms 204 on the male body 205 must be squeezed together and

pressure must be applied on the V- spring 203. To activate or utilize the whistle, the mouth is place on the nose flute 102 and blown on to create a high pinch noise as the air is split by the labium 105 and enters the resonant chamber 104.

[0033] In exemplary configurations, the whistle clasp may be approximately 1 1⁄2 inch (38mm) in length, 1 inch wide (25mm), and 3⁄4 inch (19mm) in height or thickness. Also, the arms 204 are between about 3mm and 30mm long. Likewise, the detent 212 extends from outer face of the arm 204 between about 1mm and about 30mm. In these exemplary configurations, the V-spring 203 has a length from a first end 203a to a second end 203b of approximately between 2mm and about 50mm and the V-spring 203 is folded to an angle of approximately between 5 degrees and 100 degrees at approximately the mid-point of the length. The entrance of the nose flute 102 may vary in size from approximately 2 mm to 50mm to create desired pitches in the certain configurations.

[0034] Compass: FIG. 3 shows a perspective view looking at the multi-functional compass clasp. A compass 302 may be considered a magnetic pointing device that identifies the location of a pole of the earth. A compass 302 may be placed on a female body 303 on a receptor that fits the shape of the compass 302. The compass may take any shape, such as a rectangular shape, circular shape. The compass 302 may be removable and replaceable in the female body 303. Eyes 301 are located on both the male 305 and female body 303 where the linear material attaches.

[0035] Referring now to FIG. 4 and FIG. 3 the male body 404 comprises of locking arms 407, which are pressured by a V shape spring 406 that pushes the locking arms 407 into the locked position when the male body 404 in inserted into the female body 403. Arms 407 are pivotable arms extending from pin 409 to detent 408. Pins 409 extend through locking arms 407. Pins 409 are configured as a pivot and comprise a metallic or suitable material for pivoting. V-spring 406 comprises a piece of resilient material, for example metal without limitation. V-spring 406 is configured to resiliently flex about the fold and return to approximately the original angle. Further, pins 404 couple arms to male body 404. V-spring 406 elastically urges locking arms 408 in opposite arcs from pins 409. Male body cover 405 fits over V-spring 406; which pushes the arms 407 into the locked position after male body 404 is inserted into the female body 403. Male Cover 405 retains V- spring and arms on the male body 404. The arms 407 include detents 408 that releasably retain female body 403 features within the passage 410 of female body 403. The compass fits into the compass

compartment 411 that may be designed into the female body 403. To execute the function of the compass one turns the body of the clasp so the instrument is in a horizontal plane.

[0036] In exemplary configurations of the compass clasp, the male body 404 and female body 403 components are approximately 1 inch (25mm) in length, the arms 407 are between about 3mm and 30mm long and the detent 408 extends from outer face of the arm 407 between about 1mm and about 30mm. Likewise, the V-spring 406 has a length from a first end 406a to a second end 406b of approximately between 2mm and about 50mm and the V-spring 406 is folded to an angle of approximately between 5 degrees and 100 degrees at approximately the mid-point of the length.

[0037] Mobile Storage Compartment: As illustrated in FIG. 5 there is a perspective view looking at the multi- functional safety storage compartment clasp. The storage compartment may be built onto the female body 506 and offers a compartment that can store small items. A cord or band attaches to the eyes 501 located on both the male 507 and female body 506 where a linear material, cord or band attaches. The storage compartment 610 (see FIG 6) closes by the storage cap 503. The storage cap 503 connects to the female body 506 by the link pin 502. The storage cap 503 secures to the female body 507 creating a tight seal using a screw 504.

[0038] Referring now to FIG. 6 and FIG. 7, the waterproof sealant 609 is place in between the safe cover 608 and safety storage compartment 610 to forms a water resistant and or waterproof seal. The waterproof sealant may be made of rubber or plastic, or other elastically compressible material, without limitation. The male body 602 comprises of locking arms 603, which are pressured by a V shape spring 604 that pushes the arms 603 into the locked position. Arms 603 are pivotable arms extending from pin 612 to detent 614. Pins 612 extend through locking arms 603. Pins 612 are configured as a pivot and comprise a metallic or suitable material for pivoting. V-spring 604 is configured to resiliently flex about the fold and return to approximately the original angle. Further, pins 612 couple locking arms to male body 602. V-spring 604 comprises a piece of resilient material, for example metal without limitation. V-spring 604 elastically urges arms 603 in opposite arcs from pins 612. Male body cover 605 fits over V-spring 604; which pushes the arms 603 into the locked position after male body 602 is inserted into the female body 611. Male Cover 605 retains V- spring and arms 603 on the male body 602. The arms 603 include detents 614 that releasably retain female body 611 features within the passage 613 of female body 611. In certain configurations, the safety compartment 610 in operation stores survival gear such as contact

information, fish hook/line, medicine, iodine tablets, pieces of flint/fire sticks, and other small useful survival items. Items placed inside the compartment seals when the storage cap 608 is tightened by screw 607. Alternatively, screw 607 may be replaceable with interference snaps, buttons, clamps, elastic retainers, or other means of retaining a sealed compartment.

[0039] In exemplary configurations the mobile storage compartment clasp comprises a male body 602 and female body 611 approximately 1 inch (25mm) in width, 1 inch (25mm) by length and 1⁄2 inch (12mm) in height. Likewise in configurations, the arms 603 are between about 3mm and 30mm long, the detent 614 extends from outer face of the arm 603 between about 1mm and about 30mm, and the V-spring 604 has a length from a first end 604a to a second end 604b of approximately between 2mm and about 50mm. Further, the V-spring 604 is folded to an angle of approximately between 5 degrees and 100 degrees at approximately the mid-point of the length.

[0040] Light: As illustrated in FIG. 7 the light clasp comprises of a female body 704 and male body 705 that lock together once the male body 705 is inserted into the female body 704. In configurations, the light 702 may be configured for transmission in any direction relative to the female body 704 of the clasp. In non-limiting exemplary configurations, the light may transmit or shine parallel or perpendicular to the orientation of the clasp, the linear material, the band or cord, or relative to any other component of the clasp. As previously disclosed, the male body 705 and female body 704 have eyes 701 to couple to the linear material, the band or the cord. The female body705 may be beveled where the arms are located when the male and female are put together, as discussed for other various embodiments of the clasps.

[0041] Referring now to FIG. 8 in addition to FIG 7., the male body 814 comprises of locking arms 802, which are pressured by a V shape spring 803 that pushes the arms into the locked position. Arms 802 are pivotable arms extending from pin 815 to detent 816. Pins 815 extend through arms 802. Pins 815 are configured as a pivot and comprise a metallic or other suitable material for pivoting. V-spring 803 is configured to resiliently flex about the fold and return to approximately the original angle. V-spring 803 comprises a piece of resilient material, for example metal without limitation. Further, pins 815 couple arms to male body 814. V-spring 803 elastically urges arms 802 in opposite arcs from pins 815. Male body cover 804 fits over V-spring 803; which pushes the arms 802 into the locked position after male body 814 is inserted into the lower female body 813,. Male Cover 804 retains V-spring

803 and arms 802 on the male body 814. The arms 802 include detents 816 that releasably retain female body 813 features within the passage 818 of female body 813.

[0042] A cover 804 secures the male body components. The female body illustrated in FIG. 8, has a upper 807 and lower body 813 which houses the light bulb 805, light bulb housing case 808, pressure switch 809, battery housing case 810, and battery. The light bulb hosing case 808 may be molded to securely hold the light bulb in proper position as it is connected to the pressure switch 809. The light bulb 805 is connected to the pressure switch 809 which may be securely located between the light bulb housing case 808 and battery case 810. The pressure switch 809 activates the light when pressure is applied to the switch cover 806.The battery may be placed under the battery case 810. The upper 807 and lower female body 813 is screwed together by two screws 812. Further, the female body 813 may comprise a logic means or small computer circuit for differential operation of the light. To execute the function of the light, pressure must be applied on the switch cover 806. Once pressure is applied the LED light transmits from the light bulb 805. In some configurations, the light remains functional regardless of the male body insertion into the female body 812. The light works on a pressure switch 809 with a small battery (not included). In certain instances, the logic means or computer circuit permits differential operation in response to one or more activations of the pressure switch. More specifically, the light bulb 805 may be configured to change transmitted colors or change transmission modes, for example from a solid transmission, to a blinking transmission of light. Further, the blinking transmission mode may be further controllable between a fast or high frequency blinking to slow or low frequency blinking, without limitation.

[0043] In exemplary configurations, the light clasp comprises of a body of approximately 1 1⁄2 inches (38mm) in length, 1 inch (25mm) in width, and 1 inch (25mm) in height. Arms 802 are between about 3mm and 30mm long. Detent 816 extends from outer face of the arm 802 between about 1mm and about 30mm. The V-spring 803 has a length from a first end 803a to a second end 803b of approximately between 2mm and about 50mm. V-spring 803 is folded to an angle of approximately between 5 degrees and 100 degrees at approximately the mid-point of the length.

[0044] Laser: As illustrated in FIG. 9 the laser clasp may be configured substantially similar to the light clasp previously disclosed. Generally, the light clasp consists of a female 904 and male 907 body that lock together once the male body is inserted into the female body. The shape of the male and female body may be geometric or organic in design. In configurations,

the light 902 may be configured for transmission in any direction relative to the female body 904 of the clasp. In non-limiting exemplary configurations, the light may transmit or shine parallel or perpendicular to the orientation of the clasp, the linear material, the band or cord, or relative to any other component of the clasp. Further, as disclosed hereinabove, the male and female bodies have eyes 901 to tie the linear material, comprising a band or a cord. The female body may be beveled where the arms are located when the male and female are put together.

[0045] Referring now to FIG. 10 and Figure 9., the male body 1014 comprises of locking arms 1002, which are pressured by a V shape spring 1003 that pushes the arms into the locked position. Arms 1002 are pivotable arms extending from pin 1015 to detent 1016. Pins 1015 extend through arms 1002. Pins 1015 are configured as a pivot and comprise a metallic or suitable material for pivoting. V-spring 1003 comprises a piece of resilient material, for example metal without limitation. V-spring 1003 is configured to resiliently flex about the fold and return to approximately the original angle. Further, pins 1015 couple arms to male body 1014. V-spring 1003 elastically urges arms 1002 in opposite arcs from pins 1015. Male body cover 1004 fits over V-spring 1003; which pushes the arms 1002 into the locked position after male body 1014 is inserted into the lower female body 1013. Male Cover 1004 retains V-spring 1003 and arms 1002 on the male body 1014. The arms 1002 include detents 1016 that releasable retain female body 1013 features within the passage 1018 of female body 1013.

[0046] A cover 1004 secures the male body components. The female body illustrated in FIG. 10, has an upper 1007 and lower body 1013 which houses the light bulb 1005, light bulb housing case 1008, pressure switch 1009, battery housing case 1010, and battery. The light bulb hosing case 1008 is molded to securely hold the light bulb in proper position as it is connected to the pressure switch 1009. The bulb 1005 is connected to the pressure switch 1009 which may be securely located between the bulb housing case 1008 and battery case 1010. The pressure switch 1009 activates the laser when pressure is applied to the switch cover 1006. The battery may be placed under the battery case 1010. The upper 1007 and lower female body 1013 is screwed together by two screws 1012.

[0047] To execute the function of the light, pressure must be applied on the switch cover 806. Once pressure is applied the light transmits from the bulb 1005. In some configurations, the laser remains functional regardless of the male body insertion into the female body 1013. The laser works on a pressure switch 1006 with a small battery (not included). In certain

instances, the logic means or computer circuit permits differential operation in response to one or more activations of the pressure switch. More specifically, laser 1005 may be configured to change transmitted colors or change transmission modes, for example from a solid transmission, to a blinking transmission of light. Further, the blinking transmission mode may be further controllable between a fast or high frequency blinking to slow or low frequency blinking, without limitation.

[0048] The laser clasp comprises of a body of approximately 1 1⁄2 inches (38mm) in length, 1 inch (25mm) in width, and 1 inch (25mm)in height. Arms 1002 are between about 3mm and 30mm long. Detent 1016 extends from outer face of the arm 1002 between about 1mm and about 30mm. The V-spring 1003 has a length from a first end 1003a to a second end 1003b of approximately between 2mm and about 50mm. V-spring 1003 is folded to an angle of approximately between 5 degrees and 100 degrees at approximately the mid-point of the length.

[0049] Watch: FIG. 11 shows a perspective view looking at the multi-functional watch clasp. A watch body 1102 secures into female body 1103 and fits within the designs of the female body 1103. The watch body 1102 may be easily replaced in the female body 1103. A cover 1102 snaps onto the female body 1103 to secure the watch body 1102 to the female body 1203. Eyes 1101 are located on both the male 1105 and female body 1103 permit the linear material, the cord or band attachment. The watch cover 1102 has an integrated screen protector 1212 sealed with a water resistant seal 1214.

[0050] Referring to FIG. 12 in addition to FIG. 11 the male body 1204 comprises of locking arms 1207, which are pressured by a V shape spring 1206 that pushes the locking arms 1207 into the locked position when the male body 1204 is inserted into the female body 1203. The female body 1203 has a depression design where the Watch body 1202 is placed. A watch cover 1213 fits over the watch body 1202 and snaps into the female body 1203. Watch cover comprises a screen protector 1212 and water sealant 1214. Arms 1207 are pivotable arms extending from pin 1209 to detent 1208. Pins 1209 extend through locking arms 1207. Pins 1209 are configured as a pivot and comprise a metallic or suitable material for pivoting. V-spring 1206 is configured to resiliently flex about the fold and return to approximately the original angle.

[0051] Further, pins 1204 couple arms to male body 1204. V-spring 1206 elastically urges locking arms 1208 in opposite arcs from pins 1209. V-spring 1206 comprises a piece of resilient material, for example metal without limitation. Male body cover 1205 fits over V-

spring 1206; which pushes the arms 1207 into the locked position after male body 1204 is inserted into the female body 1203. Male Cover 1205 retains V- spring and arms on the male body 1204. The arms 1207 include detents 1208 that releasably retain female body 1203 features within the passage 1210 of female body 1203. The watch body 1202 fits into the watch compartment 1211 that may be designed into the female body 1203.

[0052] In exemplary configurations, the watch clasp comprises of both a male and female component approximately 1.5 inch (38 mm) in length and 1.5 inch (38 mm) width, the arms 1207 are between about 3mm and 30mm long and the detent 1208 extends from outer face of the arm 1207 between about 1mm and about 30mm. The V-spring 1206 has a length from a first end 1206a to a second end 1206b of approximately between 2mm and about 50mm. V-spring 1206 is folded to an angle of approximately between 5 degrees and 100 degrees at approximately the mid-point of the length.

[0053] In general, it may be understood that the components of the present disclosure are described in this drawing Legend: FIG. 1 (Drawing Sheet 1); Eye: 101; Nose Flute: 102; Female Body: 103; Resonant Chamber: 104; Labium: 105; Resonant Chamber Cap: 106; Arms (2): 107; Male Body: 108. FIG. 2 (Drawing Sheet 2); Eye: 201; Male Body Cover: 202; V-Spring: 203,203a, 204b; Arms (2): 204; Male Body: 205; Nose Flute: 206; Labium: 207; Resonant Chamber: 208; Resonant Chamber Cap: 209; Female Body: 210; Pins (2): 211; Detent: 212; Passage: 213. FIG. 3 (Drawing Sheet 3); Eye: 301; Compass: 302; Female Body: 303; Arms (2): 304; Male Body: 305. FIG. 4 (Drawing Sheet 4); Eye:401; Compass: 402; Female Body: 403; Male Body: 404; Male Body Cover: 405; V-Spring: 406, 406a, 406b; Arms (2): 407;Detent: 408;Pins (2): 409; Passage: 410; Compass Compartment: 411.FIG. 5 (Drawing Sheet 5); Eye: 501; Link Pin: 502; Safe Cover: 503; Screw: 504;Arms (2): 505; Female Body: 506; Male Body: 507; FIG. 6 (Drawing Sheet 6); Eye: 601; Male Body: 602 Arms (2): 603; V-Spring: 604, 604a, 604b; Male Body Cover: 605; Link Pin 606; Screw (1) 607; Cover: 608; Waterproof sealant: 609; Safety Storage compartment: 610; Female Body: 611; Pins (2): 612; Passage: 613; Detent: 614. FIG 7: (Drawing Sheet 7); Eye: 701; Light Bulb: 702; Switch Cover: 703; Upper Female Body: 704; Lower Female Body: 705; Arms (2): 706; Male Body: 707; FIG. 8: (Drawing Sheet 8); Eye: 801; Arms (2): 802; V-Spring 803, 803a, 803b; Male Body Cover: 804; Light Bulb: 805; Switch Cover: 806;Upper Female Body: 807;Light bulb Housing Case: 808; Pressure Switch: 809; Battery Housing Case: 810; Eye: 811; Screws (2): 812; Lower Female Body: 813; Male Body: 814; Pins (2): 815; Detent: 816; Screw hole: 817; Passage: 818. FIG 9: (Drawing Sheet 9); Eye:

901; Laser Bulb: 902; Switch Cover: 903; Upper Female Body: 904; Lower Female Body: 905; Arms (2): 906; Male Body: 907; FIG. 10: (Drawing Sheet 10); Eye: 1001; Arms (2): 1002; V-Spring 1003, 1003a, 1003b; Male Body Cover: 1004; Light Bulb: 1005; Switch Cover: 1006; Upper female Body: 1007; bulb Housing Case: 1008; Pressure Switch: 1009; Battery Housing Case: 1010; Eye: 1011; Screws (2): 1012; Lower Female Body: 1013; Male Body: 1014; Pins (2): 1015; Detent: 1016; Screw hole: 1017; Passage: 1018. FIG. 11 (Drawing Sheet 11); Eye: 1101; Screen Cover: 1102; Female Body: 1103; Arms: 1104; Eyes: 1101. FIG 12: (Drawing Sheet 12); Eye: 1201; Male Body Cover: 1205; V-Spring: 1206, 1206a, 1206b; Arms (2): 1207; Male Body: 1204; Female Body: 1203; Pins (2): 1207; Detent: 1208; Watch Compartment: 1210; Watch Body 1202; Cover: 1213; Screen Protector: 1212; Water Resistant Seal; 1214.

[0054] At least one embodiment is disclosed and variations, combinations, and/or modifications of the embodiment(s) and/or features of the embodiment(s) made by a person having ordinary skill in the art are within the scope of the disclosure. Alternative embodiments that result from combining, integrating, and/or omitting features of the embodiment(s) are also within the scope of the disclosure. Where numerical ranges or limitations are expressly stated, such express ranges or limitations should be understood to include iterative ranges or limitations of like magnitude falling within the expressly stated ranges or limitations (e.g., from about 1 to about 10 includes, 2, 3, 4, etc.; greater than 0.10 includes 0.11, 0.12, 0.13, etc.). For example, whenever a numerical range with a lower limit, R_l, and an upper limit, R_u, is disclosed, any number falling within the range is specifically disclosed. In particular, the following numbers within the range are specifically disclosed: $R=R_l+k*(R_u-R_l)$, wherein k is a variable ranging from 1 percent to 100 percent with a 1 percent increment, i.e., k is 1 percent, 2 percent, 3 percent, 4 percent, 5 percent, ... 50 percent, 51 percent, 52 percent... 95 percent, 96 percent, 97 percent, 98 percent, 99 percent, or 100 percent. Moreover, any numerical range defined by two R numbers as defined in the above is also specifically disclosed. Use of the term "optionally" with respect to any element of a claim means that the element is required, or alternatively, the element is not required, both alternatives being within the scope of the claim. Use of broader terms such as “comprises”, “includes”, and “having” means “including but not limited to” and should be understood to also provide support for narrower terms such as “consisting of”, “consisting essentially of”, and “comprised substantially of”. Accordingly, the scope of protection is not limited by the description set out above but is defined by the claims that follow, that scope including all equivalents of the subject matter of the claims. Each and

every claim is incorporated as further disclosure into the specification and the claims are embodiment(s) of the present invention. The discussion of a reference in the disclosure is not an admission that it is prior art, especially any reference that has a publication date after the priority date of this application. The disclosure of all patents, patent applications, and publications cited in the disclosure are hereby incorporated by reference, to the extent that they provide exemplary, procedural or other details supplementary to the disclosure.

CLAIMS

What is claimed is:

1. A clasp device comprising:
a female body having at least one survival device and a receptor; and
a male body configured to insert and interlock with the receptor.

2. The device of claim 1 wherein the survival device is at least one chosen from the group consisting of a whistle, a compass, storage compartment, a light, and a watch.

3. The device of claim 2, wherein a light comprises a light emitting diode (LED) or a laser.

4. The device of claim 2 wherein the storage compartment comprises an elastically compressible water resistant seal.

5. The device of claim 1, wherein the female body and the male body comprise an eye configured to interface with a linear material.

6. A whistle clasp comprising
a female body, having a receptor, a nose flute, a labium, and resonant chamber disposed therein; and
a male body configured to insert and interlock with the receptor.

7. A compass clasp comprising
a female body, having a receptor, a compass mount, and a compass disposed therein; and
a male body configured to insert and interlock with the receptor.

8. A storage compartment clasp comprising
a female body, having a receptor, a storage compartment, a compartment cover, a coupler, and a compressible seal therein; and
a male body configured to insert and interlock with the receptor.

9. The device of claim 8, wherein the coupler comprises a device configured to retain the compartment cover in place over the storage compartment.

10. The device of claim 8, wherein the compressible seal is configured for water resistant sealing of the storage compartment against the compartment cover.

11. A light clasp comprising

a female body, having a receptor, a light transmitting device, an activation switch, and a power source disposed therein; and

a male body configured to insert and interlock with the receptor.

12. The device of claim 11, further comprising a logic means or computer circuit for differential operation of the light transmitting device.

13. The device of claim 11, wherein the light transmitting device comprises a light emitting diode (LED) or a laser.

14. A timekeeping clasp comprising

a female body, having a receptor, a timekeeping device, a power source, and a protector therein; and

a male body configured to insert and interlock with the receptor.

15. The device of claim 14, wherein the time keeping device comprises a watch.

16. The device of claim 14, wherein the protector comprises a cover.

17. A device of claims 6 to 16, wherein the male body and the female body comprise an eye configured to couple to a linear material.

18. All claims as substantially described herein.

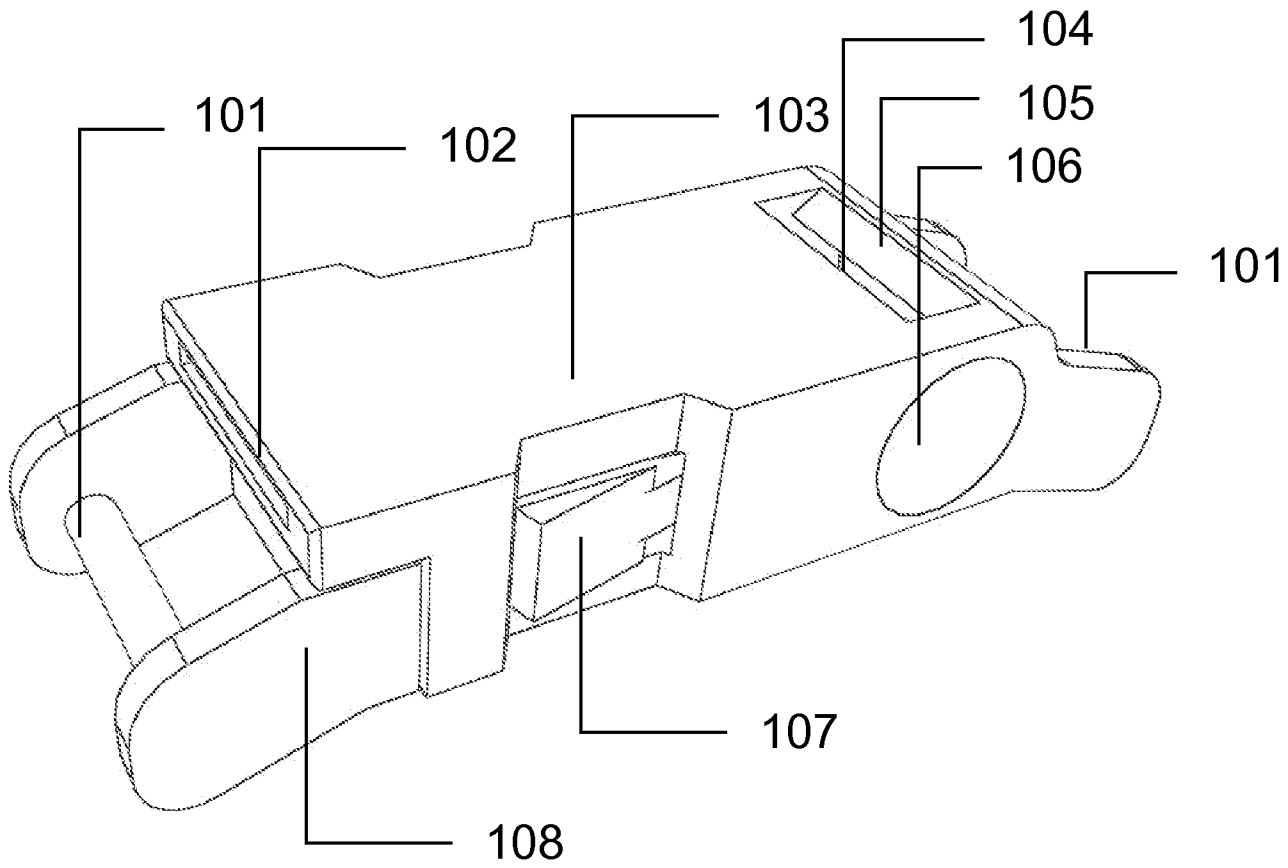

FIG.1

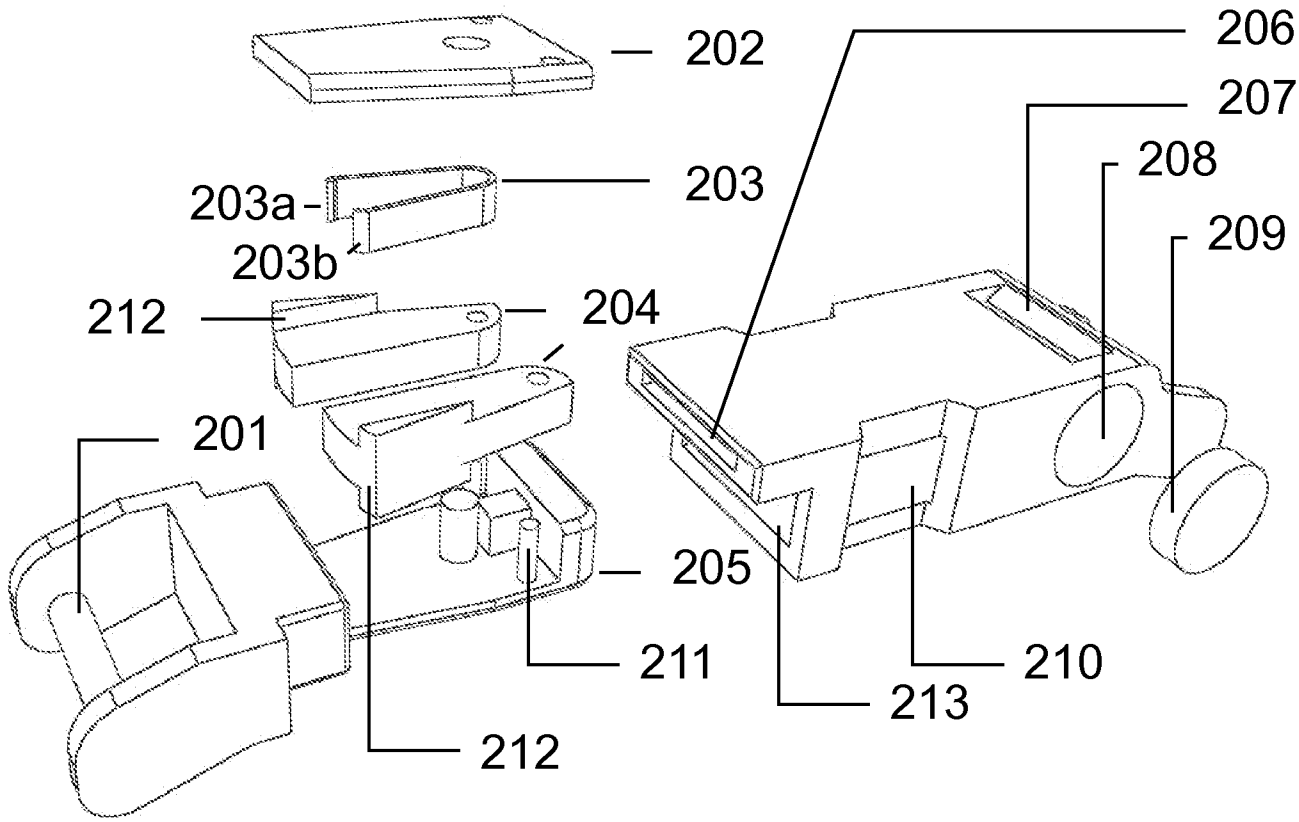
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FIG.2

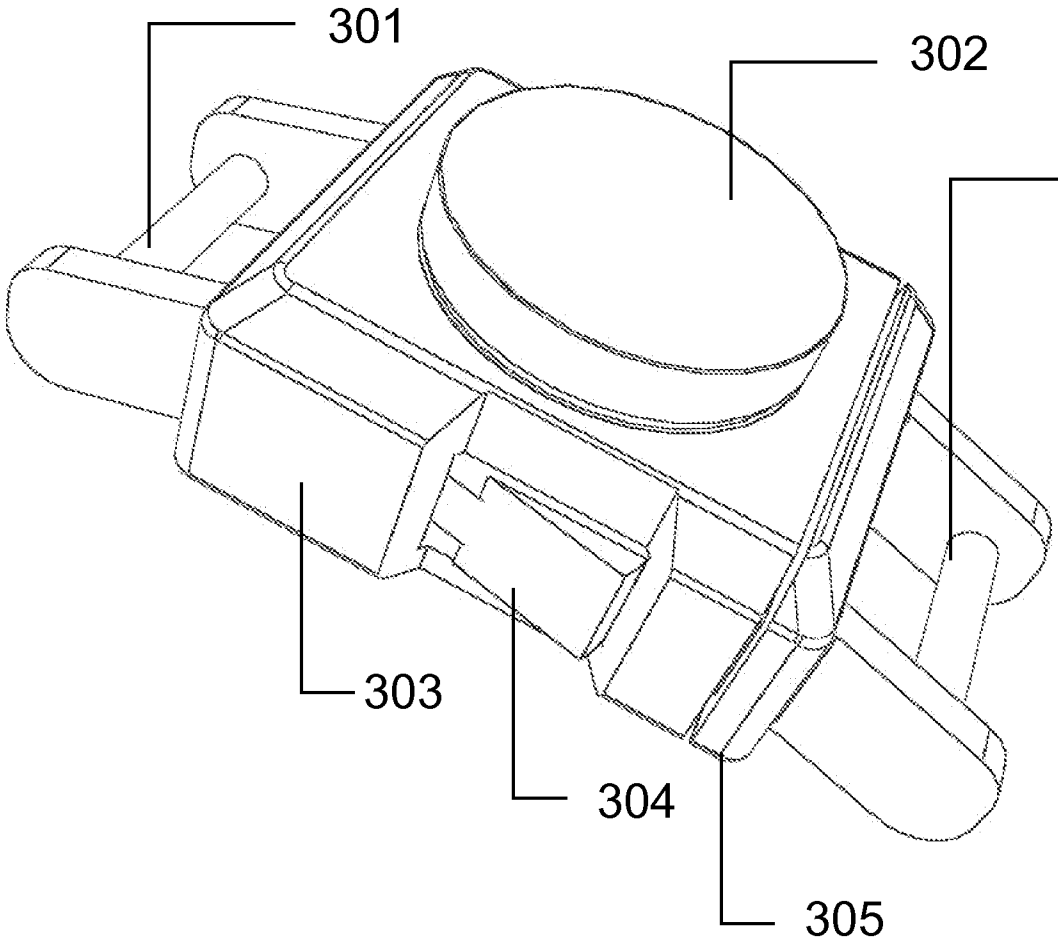

FIG.3

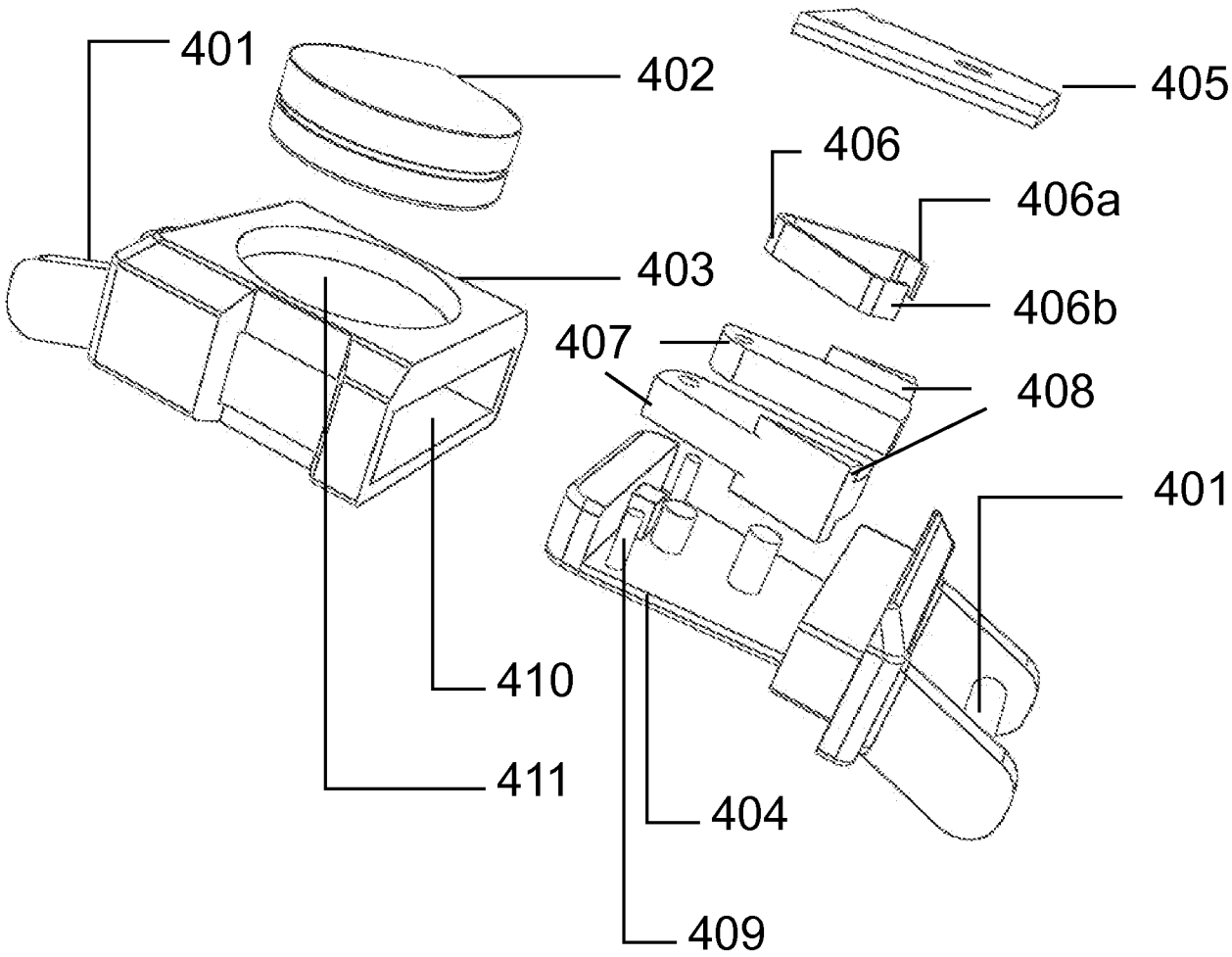

FIG.4

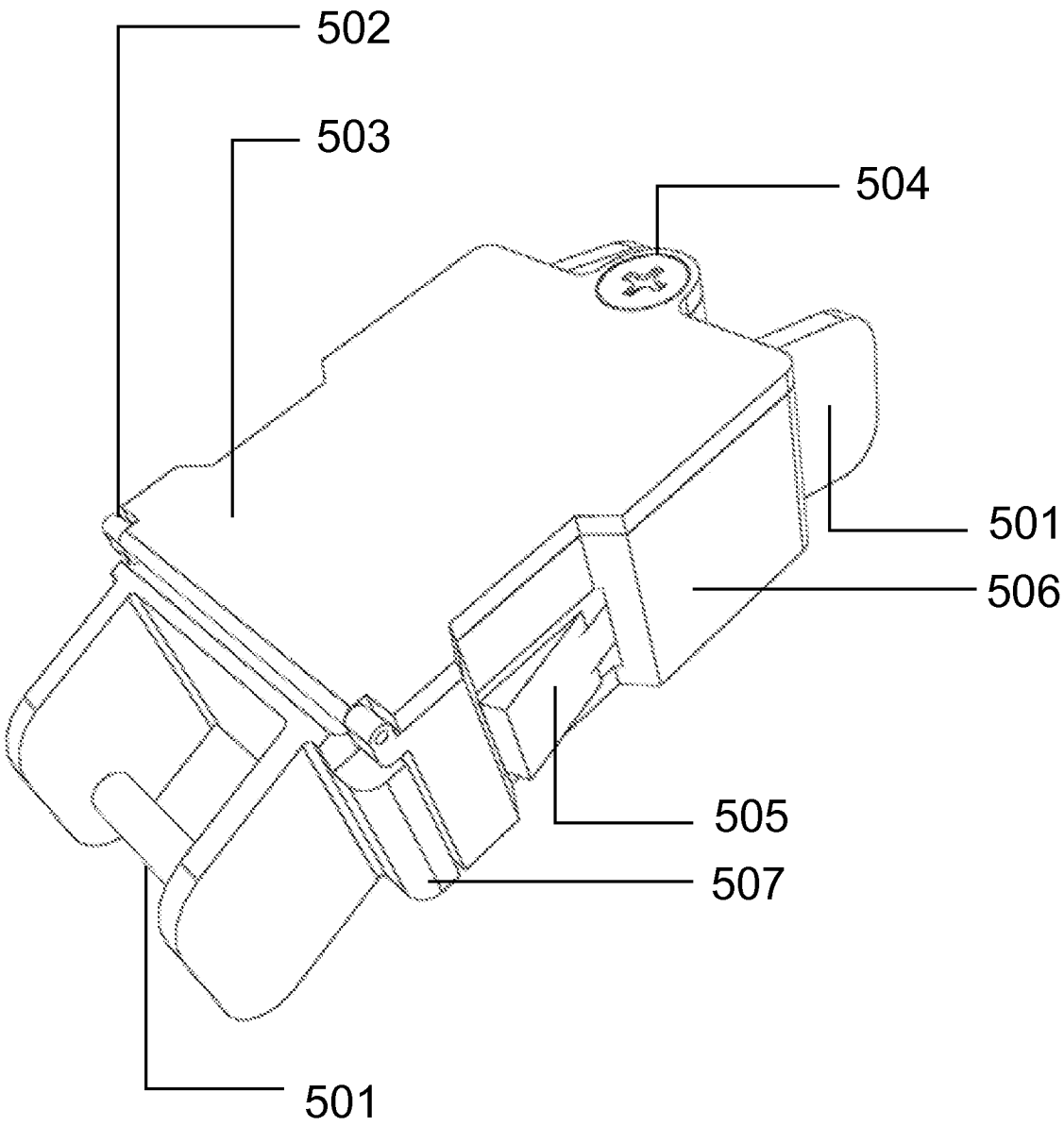

FIG.5

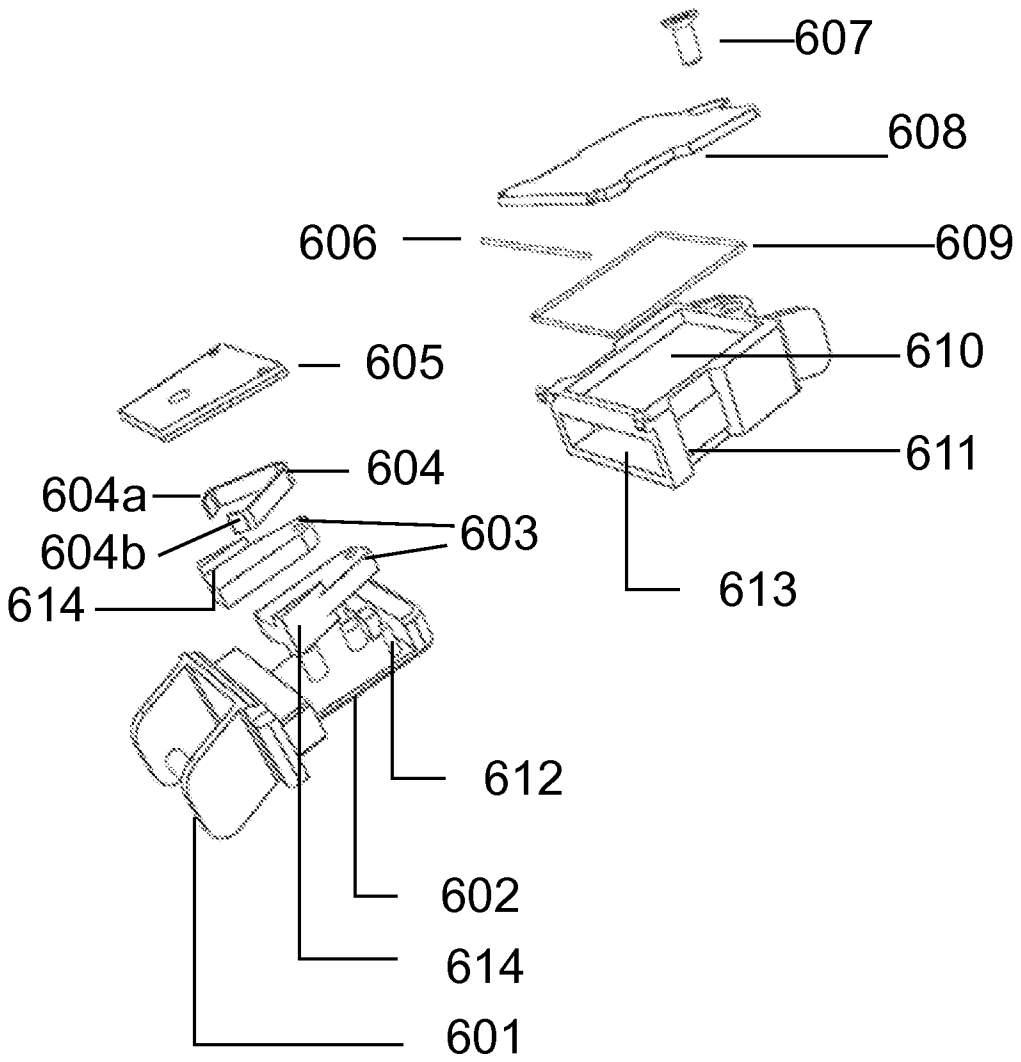
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FIG.6

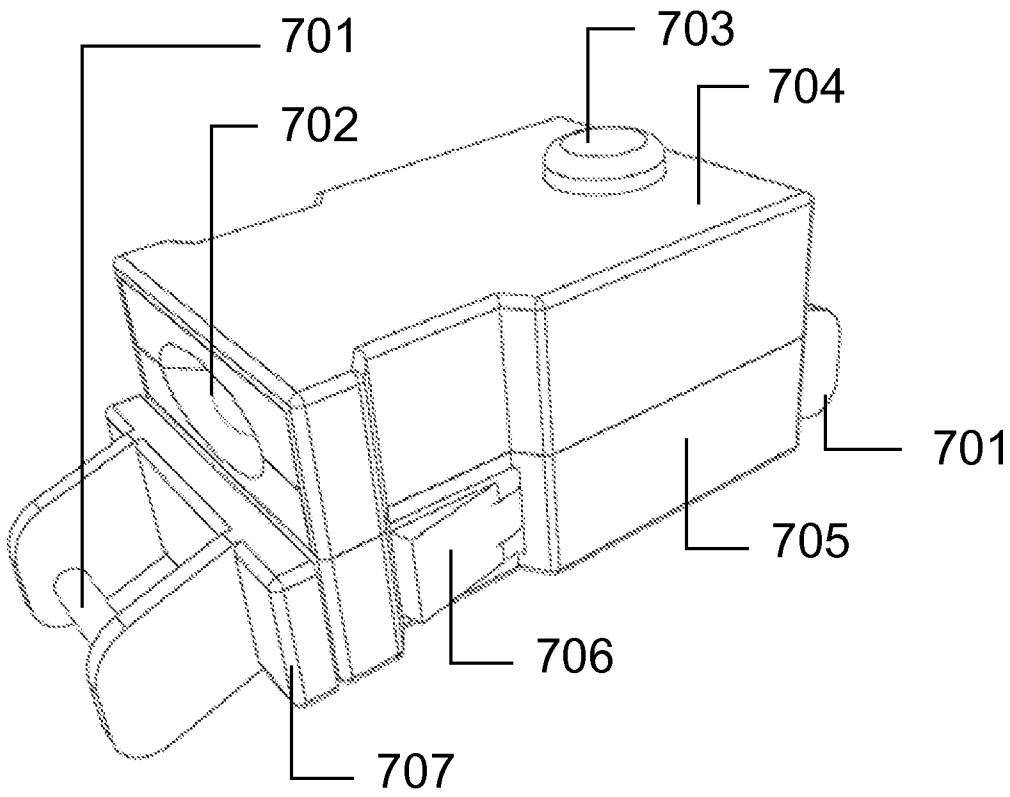

FIG.7

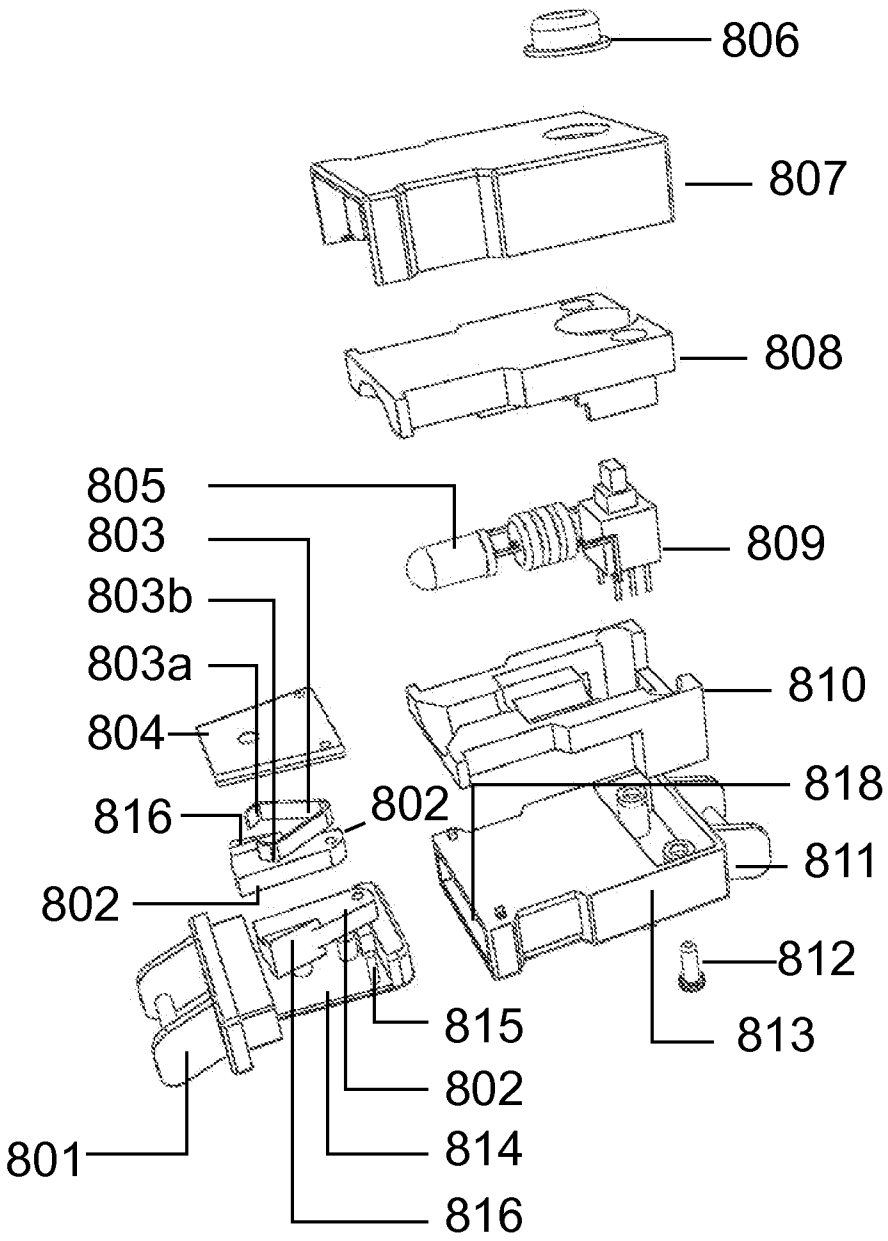
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FIG.8

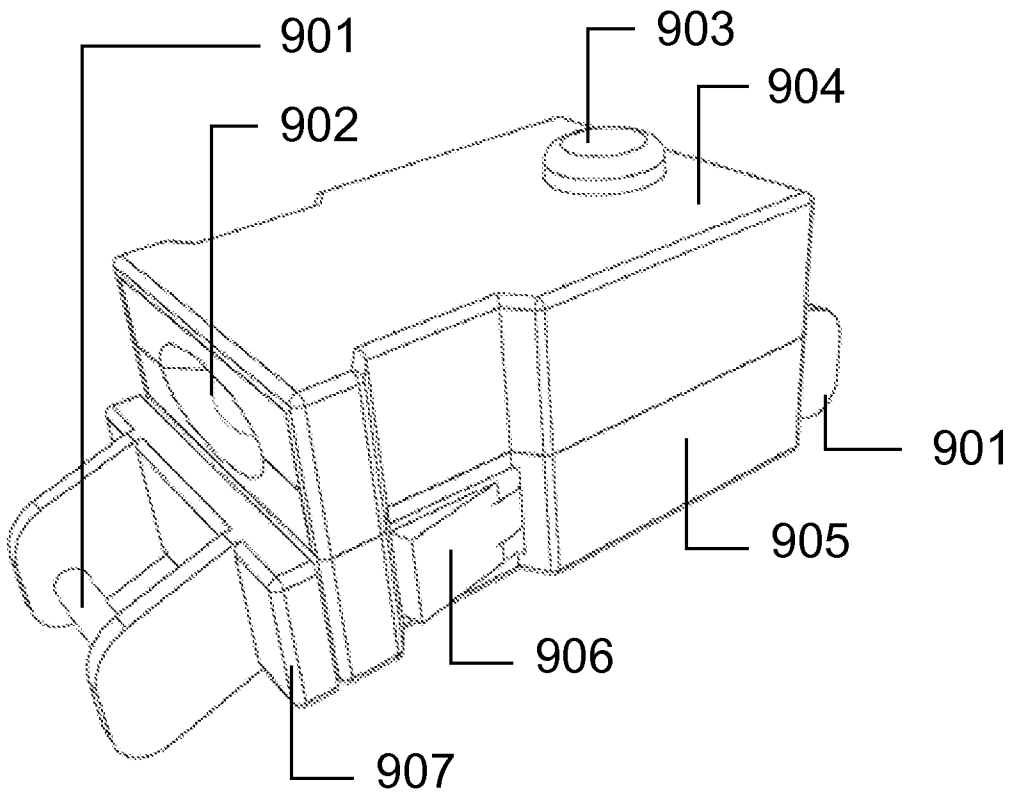

FIG.9

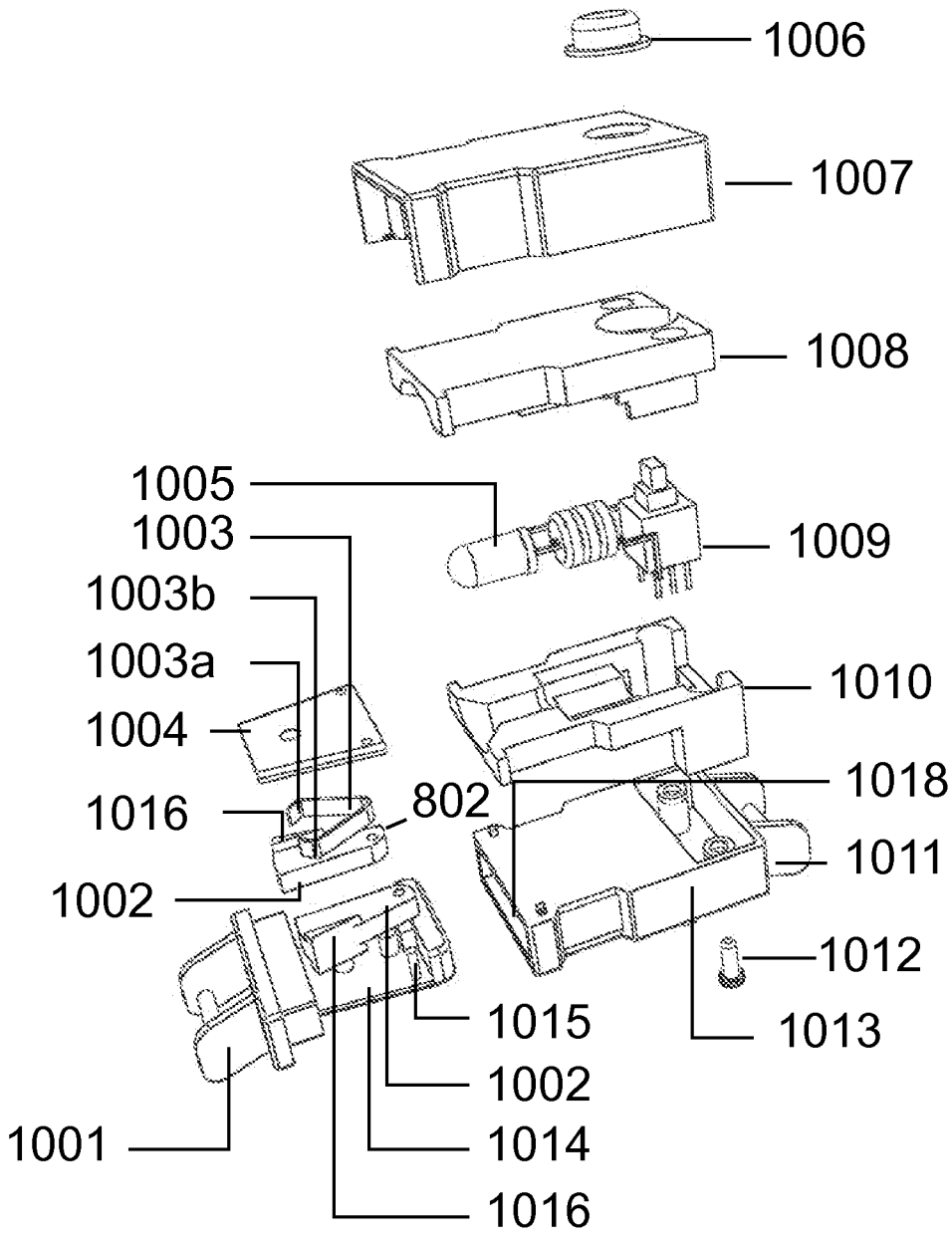
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FIG.10

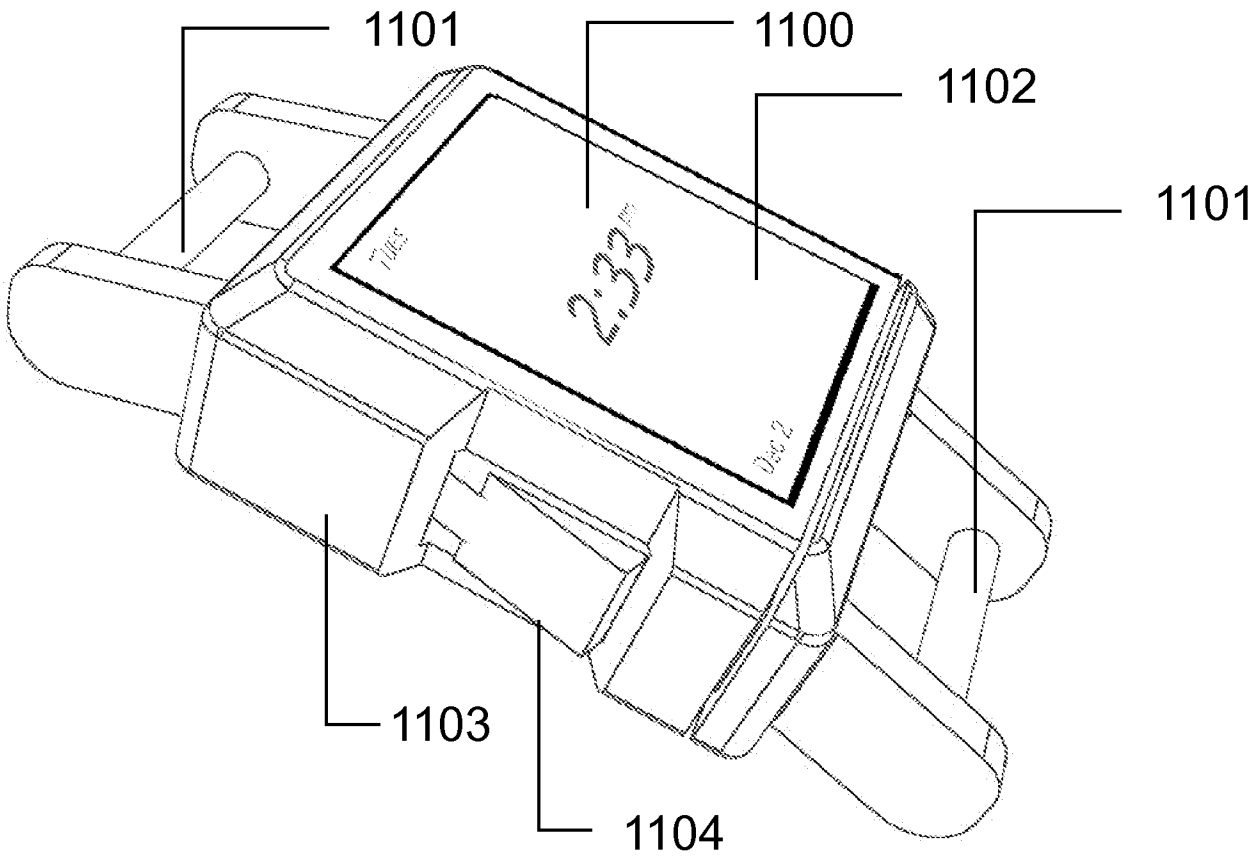

FIG.11

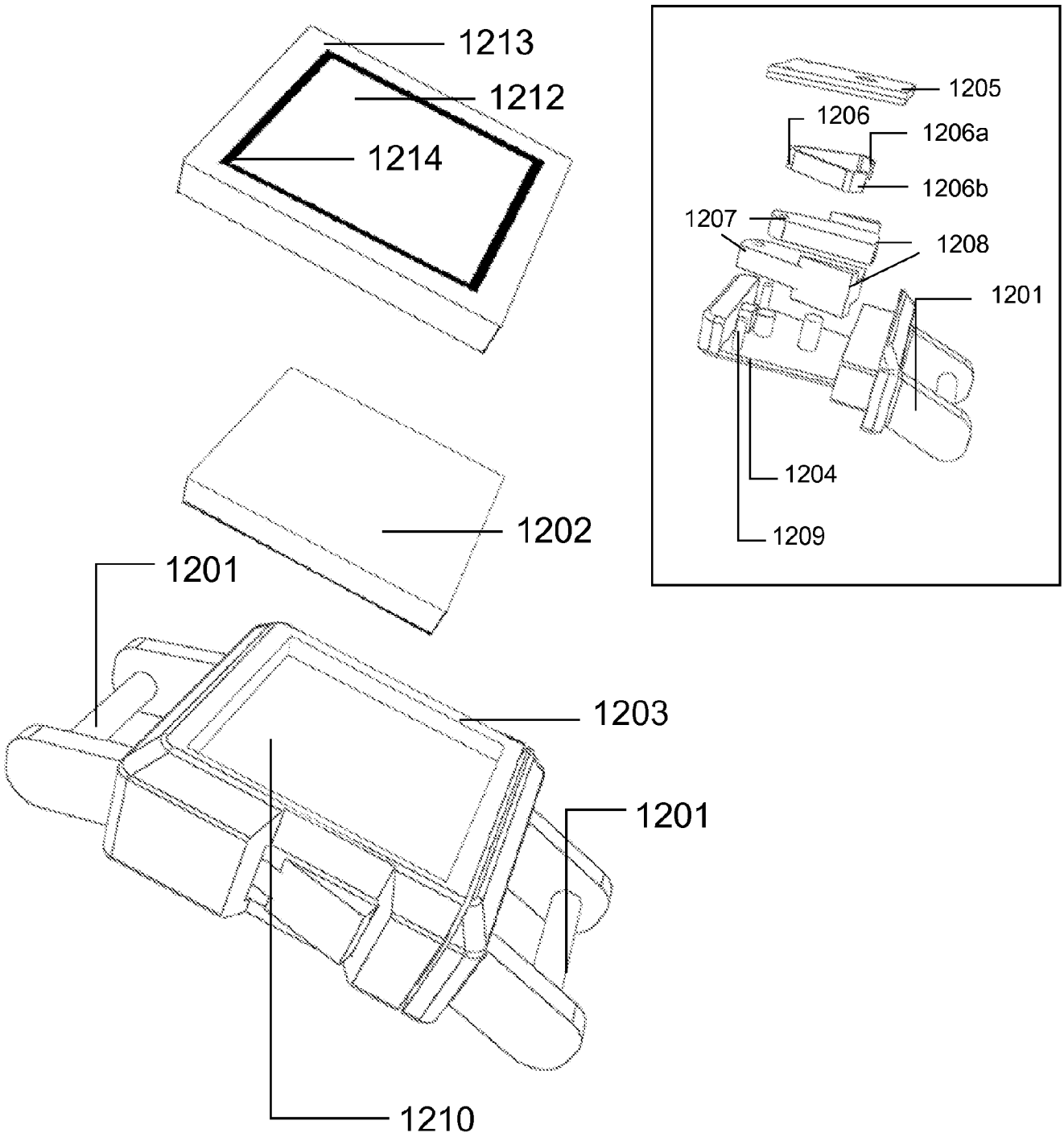
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FIG.12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/040366

A. CLASSIFICATION OF SUBJECT MATTER

A44B 11/25(2006.01)i, A44C 5/20(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A44B 11/25; A44B 21/00; A45F 5/00; G08B 13/14; G04B 37/14; A45F 3/14; A44C 5/20

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & keywords: clasp, female body, male body, survival device, receptor, insert, interlock, whistle, compass, storage compartment, light, timekeeping

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2006-0261958 A1 (KLEIN, HANNAH CLAIR) 23 November 2006 See abstract; figure 9.	1,2,4,8-10
A		3,5-7,11-16
A	US 7217031 B2 (BHAVNANI, DILIP) 15 May 2007 See abstract; claim 1; figures 1-2.	1-16
A	US 2011-0101053 A1 (LIANG, EZRA) 5 May 2011 See abstract; claim 1; figure 1.	1-16
A	US 4659000 A (SALES, WAYNE C. et al.) 21 April 1987 See abstract; figures 1-6.	1-16
A	US 4813108 A (GELDWERTH, SIMON) 21 March 1989 See abstract; figure 1.	1-16

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22 August 2013 (22.08.2013)	**23 August 2013 (23.08.2013)**

Name and mailing address of the ISA/KR
Korean Intellectual Property Office
189 Cheongsa-ro, Seo-gu, Daejeon Metropolitan City, 302-701, Republic of Korea
Facsimile No. +82-42-472-7140

Authorized officer
YANG In Su
Telephone No. +82-42-481-8131

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/040366

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 18
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
Claim 18 relies on reference to the description or drawings instead of definite structure expressly stated in the claim.

3. ☒ Claims Nos.: 17
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required addtional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/US2013/040366

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		US 2011-205059 A1	25/08/2011
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		US 2005-0152228 A1	14/07/2005
		US 2007-0241149 A1	18/10/2007
		US 2008-0066358 A1	20/03/2008
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US 4659000 A	21/04/1987	None	
US 4813108 A	21/03/1989	US 4713865 A	22/12/1987