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(54) **CLIP TYPE LAMP DETACHABLY COUPLED WITH CAP**

KLEMMLAMPE MIT LÖSBARER BEFESTIGUNG AN EINEM SOCKEL

LAMPE A CROCHETS COUPLEE DE MANIERE AMOVIBLE A UNE CASQUETTE

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Description

Technical Field

[0001] The present invention relates to a clip type lamp. More particularly, the present invention relates to a clip type lamp, which is detachably attached to a cap visor so as to ensure the user's field of vision when the user is mountaineering, fishing, exercising or traveling at night, wherein two clips are integrally formed with both sides of a front section of a lamp body such that the two clips can be fixedly coupled with a front section of the cap visor regardless of the curved configurations of the cap visor, the clip type lamp can be easily attached to or detached from the cap visor without causing damage to an outer skin of the cap visor, the clip type lamp is prevented from moving or separating from the cap visor, and a switch for operating an electric bulb and an ultrasonic wave generator is provided at a lower portion of the lamp body in such a manner that the user can easily operate the electric bulb and the ultrasonic wave generator while wearing the cap equipped with the clip type lamp.

Background Art

[0002] In general, in order to protect the face of a user from sunlight while ensuring the user's field of vision during leisure activity or sports activity, such as mountaineering, fishing, exercising, traveling, hiking, or jogging, the user wears a cap having a visor protruding from the front section of the cap. The user also wears the cap when the user works at night.

[0003] Although the cap does not cause special problems when the user is mountaineering, fishing, exercising, or traveling in the daytime, such a cap does not ensure the user's field of vision at night, so the user must carry a lamp including a flash or an electric bulb.

[0004] In addition, since the user must move while gripping the flash or the electric bulb when the user is mountaineering or traveling at night, the activity of the user may become unnatural. Further, since the user must move along the path illuminated by the light, the user may be careless of peripheral environment, causing the safety accident.

[0005] Moreover, in the case of night work requiring illumination, the worker must illuminate the working place using the lamp or the electric bulb while gripping the lamp or the electric bulb in one hand. Accordingly, the worker has to perform the work by using the other hand only, causing inconvenience. In addition, when it is necessary to perform the work using both hands, the other worker must support the worker to illuminate the working place using the lamp or the electric bulb.

[0006] To solve the problems described above, applicant of the present invention has filed Korean Utility Model Registration No. 312,151 that discloses a clip type lamp detachably coupled with a cap visor.

[0007] This clip type lamp includes a plurality of electric

bulbs 24 installed at the front side of a case 22. A switch 26 operating the electric bulbs is installed at one side of the case 22. A battery is accommodated in the case 22, and a clip 28 having elasticity is provided on the case 22, in which one side-end of the clip 28 is integrally formed with the top of the case 22.

[0008] In the conventional clip type lamp having the above structure, if the user pushes the clip type lamp from the front side to the rear side of the cap visor, the other end of the clip having one end fixed to the case moves upward, so that the cap visor is fixedly inserted between the case of the lamp and the clip. In this state, if the user operates the switch installed at one side of the case of the lamp fixed to the cap visor, the electric bulbs are turned on, thereby illuminating the road ahead.

[0009] However, since the switch is installed at one side of the case in the conventional clip type lamp, the user must find and manipulate the switch by touching the lateral side of the case, which is fixed to the lower end portion of the cap visor, so as to operate the electric bulbs, causing inconvenience of user and making it difficult to manipulate the switch.

[0010] In addition, since the lamp is fixed to the cap visor, which is bent while forming a curved surface, a predetermined center portion of the clip provided at an upper portion of the case may serve to fix the cap visor. For this reason, when the user is in activities, such as hiking or jogging, the lamp cannot be secured to a fixed position in the cap visor, but moves in the left or right direction, so that the illumination direction of light may not match with the viewing direction of the user. In extreme cases, the lamp is separated from the cap visor.

[0011] In addition, if the user forcibly couples the clip of the lamp with the cap visor having various curved configurations, the curved surface of the cap visor may be forcibly deformed into a flat surface or a crooked surface according to the shape of the case of the clip, so it is difficult for the user to make a desired shape of the cap visor. Furthermore, if the user forcibly couples the clip of the lamp with the cap visor, an outer skin of the cap visor may be torn, deteriorating the cap. For this reason, the clips are individually fabricated corresponding to the curved configurations of the cap visor.

[0012] In addition, harmful insects or winged insects, such as mosquitoes or moths, are gathered in the vicinity of the lamp fixed to the cap visor due to light generated from the electric bulbs at night. The insects gathered in the vicinity of the lamp may obstruct the user's field of vision. Although the insects also move along the light generated from the electric bulbs while obstructing the user's field of vision, there are no specific solutions to remove the insects. In extreme cases, the user must turn off the lamp.

[0013] Furthermore, when the conventional clip type lamp is used for a long period of time, the user must frequently exchange the battery accommodated in the case with new one.

[0014] WO-A-2004/064555 and US-A-2005/0128737

disclose other battery-powered lamps to be clipped to a visor of a hat or cap.

Disclosure

Technical Problem

[0015] An object of the present invention is to provide a clip type lamp, which is easily attached to or detached from a cap visor while keeping an external appearance of the cap visor regardless of the various curved configurations of the cap visor, without causing damage to an outer skin of the cap visor while preventing the lamp from moving or separating from the cap visor even if the user is in intensive activities.

[0016] Another object of the present invention is to provide a clip type lamp including a switch, which is provided at a lower portion of a body of the clip type lamp so as to operate an electric bulb and an ultrasonic wave generator in such a manner that the user can easily operate the electric bulb and the ultrasonic wave generator while wearing the cap equipped with the clip type lamp.

[0017] Still another object of the present invention is to provide a clip type lamp including an ultrasonic generator, which is provided at a lower portion of the clip type lamp in order to generate ultrasonic waves to prevent bugs or harmful insects from gathering in the vicinity of the electric bulb of the clip type lamp.

[0018] Still yet another object of the present invention is to provide a clip type lamp including a solar cell plate installed on a body of the clip type lamp in order to allow a user to use the clip type lamp at night by charging a battery accommodated in the body using solar energy.

[0019] Still yet another object of the present invention is to provide a clip type lamp including a clip section having a head part protruding forward and upward from a body of the clip type lamp in such a manner that the head part may serve as a billboard or a print board for exhibiting product names or advertisements.

Technical Solution

[0020] In order to accomplish the above objects, there is provided a clip type lamp as specified in claim 1 herein.

[0021] The clip type lamp further preferably includes an ultrasonic wave generator accommodated in the body; and a switch for operating the electric bulbs and the ultrasonic wave generator.

[0022] The switch preferably protrudes from a bottom surface of the body in a hemispherical shape.

[0023] A plurality of ultrasonic wave ports may be formed at upper and lower portions of the body so as to emit ultrasonic waves, which are generated from the ultrasonic wave generator, to an exterior.

[0024] According to the invention, coupling holes may be formed at both sides of the front portion of the body, and the solar cell plate includes a body section positioned between the first and second clips; an extension member

extending along a bottom surface of the body section from a front portion of the body section and having an arc-shaped section; and power-supplying protrusions provided at both sides of a rear portion of the extension member in such a manner that the power-supplying protrusions are detachably inserted into the coupling holes to apply power accumulated in a solar cell to the battery accommodated in the body.

[0025] The clip type lamp further preferably includes a connection jack provided at one side of the body and connected to an external power source so as to charge the battery accommodated in the body.

[0026] Other preferred aspects of the invention are as defined in the claims herein.

Description of the Drawings

[0027]

FIG. 1 is a perspective view showing a conventional lamp;

FIG. 2 is a perspective view showing a clip type lamp according to the first embodiment of the present invention;

FIG. 3 is a perspective view showing a bottom side of a clip type lamp;

FIG. 4 is a perspective view showing a usage state of a clip type lamp coupled with a cap visor according to the first embodiment of the present invention;

FIG. 5 is a front view showing a clip type lamp coupled with a cap visor according to the first embodiment of the present invention;

FIG. 6 is a side sectional view showing a clip type lamp coupled with a cap visor according to the first embodiment of the present invention;

FIG. 7 is a perspective view showing a bottom side of a clip type lamp coupled with a cap visor according to the first embodiment of the present invention;

FIG. 8 is an exploded perspective view showing a clip type lamp according to the second embodiment of the present invention;

FIG. 9 is a perspective view showing a clip type lamp shown in FIG. 8 coupled with a cap visor;

FIG. 10 is a side sectional view showing a clip type lamp coupled with a cap visor according to the second embodiment of the present invention;

FIG. 11 is a perspective view showing a clip type lamp according to the third embodiment of the present invention; and

FIG. 12 is a right-side view of FIG. 11.

Mode for the Invention

[0028] Hereinafter, clip type lamps according to various embodiments of the present invention will be described with reference to the accompanying drawings.

[0029] FIG. 2 is a perspective view showing a clip type lamp according to the first embodiment of the present

invention, FIG. 3 is a perspective view showing a bottom side of the clip type lamp, FIG. 4 is a perspective view showing a usage state of the clip type lamp coupled with a cap visor according to the first embodiment of the present invention, FIG. 5 is a front view showing the clip type lamp coupled with the cap visor according to the first embodiment of the present invention, FIG. 6 is a side sectional view showing the clip type lamp coupled with the cap visor according to the first embodiment of the present invention, and FIG. 7 is a perspective view showing a bottom side of the clip type lamp coupled with the cap visor according to the first embodiment of the present invention.

[0030] As shown in FIGS. 2 and 3, the clip type lamp 100 according to the first embodiment of the present invention includes a body 110, in which a battery is accommodated. An upper portion of the body 110 closely adheres to a lower portion of a cap visor 300 (Figure 3), having a smoothly curved surface. A plurality of electric bulbs 120 are provided at the front portion of the body 110. First end portions of first and second clips 131 and 132 are fixed to the front portion of the body 110 and second end portions of the first and second clips 131 and 132 are elastically moved up and down.

[0031] The first and second clips 131 and 132 include first and second protrusions 131a and 132, which have arc-shaped section and are integrally formed with the front portion of the body 110 while slightly protruding beyond the front portion of the body 110, and first and second clip fixing sections 135 and 136, which extend downward from the first and second protrusions 131a and 132a to overlie the body 110.

[0032] In addition, the first and second protrusions 131a and 132a define first and second locking holes 131b and 132b such that a rim of the cap visor 300 can be securely rested in the first and second locking holes 131b and 132b.

[0033] In order to allow the clip type lamp to be easily coupled with the cap visor 300, center portions of the first and second clip fixing sections 135 and 136 make contact with the body 110 and end portions of the first and second clip fixing sections 135 and 136 are slightly bent upward.

[0034] As mentioned above, the clip type lamp according to the present invention is thus divided into two parts, so the clip can be attached to the cap without deforming the outer appearance of the cap.

[0035] A switch 140 is installed at a lower side of the body 110 in order to operate the electric bulbs 120 and an ultrasonic wave generator (not shown) accommodated in the body 110. In addition, a plurality of ultrasonic wave ports 150 are formed at upper and lower portions of the body 110 so as to allow ultrasonic waves generated from the ultrasonic wave generator to be easily emitted out of the body 110.

[0036] If the user pushes the switch 140 one time, the electric bulbs 120 are turned on, thereby irradiating light. In addition, the ultrasonic wave generator accommodated in the body 110 is also operated, so that ultrasonic

waves are generated. In this state, if the user pushes the switch 140 again, the electric bulbs 120 may flicker in a predetermined time interval, but the ultrasonic wave generator continuously generates the ultrasonic waves. In this state, if the user pushes the switch 140 one more time, the electric bulbs 120 are turned off and the operation of the ultrasonic wave generator stops.

[0037] As shown in FIG. 3, the switch 140 protrudes from the bottom surface of the body 110, preferably, in the form of a hemispherical structure, so as to allow the user to easily operate the switch 140.

[0038] Meanwhile, a connection jack 160 can be provided at one side of the body 110. The connection jack 160 is connected to an external power source so as to charge the battery accommodated in the body 110.

[0039] As shown in FIGS. 4 to 7, in such a clip type lamp 100 having the above structure, the cap visor 300 is positioned between the body 110 of the lamp 100 and the first and second clips 131 and 132. At this time, since the second end portions of the first and second clip fixing sections 135 and 136 of the first and second clips 131 and 132 are bent upward, the lamp 100 can be easily coupled with the cap visor 300 if the user pushes the lamp 100 from the front side to the rear side of the cap visor 300. In addition, since both sides of the body 110 are curved downward while forming a curved surface, the body 110 can be closely coupled with the cap visor 300 having the curved configuration.

[0040] At this time, since the second end portions of the first and second clip fixing sections 135 and 136 are bent upward relative to the upper surface of the cap visor 300, and the body 110 fully makes contact with the bottom surface of the cap visor 300 without requiring excessive force, the outer skin of the cap visor 300 may not be damaged by the first and second clips 131 and 132.

[0041] In the clip type lamp 100 attached to the cap visor 300, the rim of the cap visor 300 is fixedly inserted into the locking holes 131b and 132b formed at center portions of the first and second protrusions 131a and 132a of the first and second clips 131 and 132, and the first and second clips 131 and 132 are fixedly supported on the upper surface of the cap visor 300, so that the lamp 100 can be secured at the fixed position in the cap visor 300 without being separated from the cap visor 300, even if the user is in intensive activities, such as hiking or jogging.

[0042] In addition, as shown in FIGS. 6 and 7, in a state in which the clip type lamp 100 is fixedly attached to the cap visor 300, the front end portion of the cap visor 300 is positioned in the locking holes 131b and 132b of the first and second protrusions 131a and 132a, so the front portion of the cap visor 300 may protrude beyond the body 110 of the clip type lamp 100. Accordingly, raindrops falling on the upper surface of the cap visor 300 can be prevented from being introduced into the electric bulbs 120 provided at the front portion of the body 110 of the lamp 100.

[0043] When it is necessary to operate the electric

bulbs 120 of the lamp 100 fixed to the cap visor 300 at night, the user simply pushes the switch 140 having the hemispherical shape, which protrudes from the bottom surface of the body 110 of the lamp 100, thereby operating the electric bulbs 120.

[0044] In addition to the illumination function of the electric bulbs 120, the electric bulbs 120 may flicker in a predetermined time interval, if the user pushes the switch 140 one more time. This flickering function of the electric bulbs 120 is very advantageous when the user is in emergency or when it is necessary to notify others of the position of the user.

[0045] Meanwhile, although it is not illustrated in figures, according to another embodiment of the present invention, a pair of switches 140 can be installed at both sides of the bottom surface of the body 110. In this case, one switch serves to operate the electric bulbs 120 provided at the front portion of the body 110, and the other switch serves to operate the ultrasonic wave generator accommodated in the body 110 of the clip type lamp 100.

[0046] In addition, it is also possible to operate the ultrasonic wave generator accommodated in the body 110 of the clip type lamp 100 simultaneously with the electric bulbs 120 by manipulating the switch 140 of the clip type lamp 100. In this case, ultrasonic waves are emitted through the ultrasonic wave ports 150 formed at the lower portion of the lamp body 110, thereby preventing bucks or harmful insects, such as mosquitoes, from gathering in the vicinity of the electric bulbs 120.

[0047] The ultrasonic wave ports 150 may include perforation holes, which are formed at the lower portion of the body 110 when the body 110 is fabricated through injection molding. In addition, the ultrasonic wave ports 150 can be formed at the lower portion of the body 110 after the body 110 has been fabricated.

[0048] Meanwhile, when the clip type lamp 100 of the present invention is not used, the user connects the connection jack 160 provided at one side of the body 110 to an external power source, such as a lighter socket installed in a vehicle, thereby charging the battery accommodated in the body 110 of the lamp 100. Thus, the user can use the clip type lamp 100 for a long period of time.

[0049] Hereinafter, the clip type lamp according to the second embodiment of the present invention will be described with reference to FIGS. 8 to 10. The same reference numerals will be used to refer to the same elements throughout the specification.

[0050] FIG. 8 is an exploded perspective view showing the clip type lamp according to the second embodiment of the present invention, FIG. 9 is a perspective view showing the clip type lamp shown in FIG. 8 coupled with a cap visor, and FIG. 10 is a side sectional view showing the clip type lamp coupled with the cap visor according to the second embodiment of the present invention.

[0051] The clip type lamp according to the second embodiment of the present invention is substantially identical to clip type lamp according to the first embodiment of the present invention, except that a pair of coupling holes

170 are formed at the front portion of the body 110 and a solar cell plate 200 is coupled with the body 110 through the coupling holes 170.

[0052] As shown in FIGS. 8 to 10, the solar cell plate 200 coupled with the clip type lamp 100 according to the second embodiment of the present invention includes a body 210, which is installed between a pair of clips 130. An extension member 220 is integrally formed with the front portion of the body 210. The extension member 220 has an arc-shaped section and power-supplying protrusions 230 are provided at both sides of the rear portion of the extension member 220 in such a manner that the power-supplying protrusions 230 can be inserted into the coupling holes 170 formed at both sides of the front portion of the body 110 to apply power to the battery accommodated in the body 210.

[0053] Preferably, as shown in FIG. 10, the solar cell plate 200 is positioned on the upper surface of the cap visor 300.

[0054] In the daytime, the clip type lamp according to the second embodiment of the present invention stores energy by absorbing solar heat through the solar cell plate 200, thereby charging the battery accommodated in the body 110 of the lamp 100. Thus, the user can use the lamp at night, without using an external power source.

[0055] In addition, although the present invention has been described in that the solar cell plate 200 is detachably coupled to the body 110 of the lamp 100, the solar cell plate 200 can be integrally formed with the body 110 of the lamp 100 or can be installed on the body 110 using a separate fixing unit.

[0056] Preferably, the solar cell plate has a large area to receive light from the sun as much as possible. To this end, the solar cell plate has a foldable structure. In this case, the user may develop the foldable solar cell plate in daytime to receive solar energy and fold the foldable solar cell plate at night to easily store the foldable solar cell plate.

[0057] FIG. 11 is a perspective view showing a clip type lamp according to the third embodiment of the present invention, and FIG. 12 is a right-side view of FIG. 11.

[0058] The clip type lamp according to the third embodiment of the present invention is substantially identical to the clip type lamp according to the first embodiment of the present invention, except for the shape of the clip.

[0059] As shown in FIGS. 11 and 12, the clip type lamp according to the third embodiment of the present invention includes a clip section 400 coupled to the body 110 of the clip type lamp. The clip section 400 is provided with a head 410 having an arc-shaped section that protrudes upward in the front direction from the front portion of the body 110. First and second clip fixing sections 411 and 413 are provided at both sides of the head 410. The first and second clip fixing sections 411 and 413 extend along the bottom surface of the body 110.

[0060] A locking hole 415 is defined by means of the head 410, and the rim of the cap visor 300 is fixedly in-

serted into the locking hole 415.

[0061] In addition, in order to allow the clip type lamp to be easily coupled with the cap visor 300, the center portions of the first and second clip fixing sections 411 and 413. closely make contact with the body 110 and end portions of the first and second clip fixing sections 411 and 413 are bent upward from the upper surface of the cap visor 300.

[0062] Furthermore, since the front portion of the head 410 has a large surface area, the head 410 may serve as a billboard or a print board for exhibiting product names or advertisements.

Claims

1. A clip type lamp comprising:

a body (110) having a smoothly curved upper surface and accommodating a battery therein; a plurality of electric bulbs (120) installed at a front portion of the body (110); and means for detachably attaching the lamp to a cap visor,

characterized in that

the means (131,132) for detachably attaching the lamp to a cap visor comprise first and second clips (131 and 132 respectively) each having a first end portion extending forwardly from a front portion of the body (110) and then arching upwardly and rearwardly to an centre portion (135 or 136) overlying the body (110) and engageable with a cap or hat visor to trap the visor between the clips (131,132) and the upper surface of the body (110) to secure the body (110) beneath the visor, and terminating in a distal end portion which is upwardly curved such that the first and second clips (131 and 132) can easily be engaged with the hat or cap visor, wherein the upwardly and rearwardly arching portion (131a or 132a) of each of the first and second clips (131,132) defines a locking hole (131b or 132b) in which the front rim of the hat or cap visor is securely rested in use.

2. A clip type lamp according to claim 1, further comprising:

an ultrasonic wave generator accommodated in the body; and a switch (140) for operating the electric bulbs and the ultrasonic wave generator.

3. A clip type lamp according to claim 2, wherein the switch (140) protrudes from a bottom surface of the body in a hemispherical shape.

4. A clip type lamp according to claim 2, wherein a plu-

rality of ultrasonic wave ports (150) are formed at upper and lower portions of the body (110) so as to emit ultrasonic waves, which are generated from the ultrasonic wave generator, to an exterior.

5. A clip type lamp according to any preceding claim, wherein the forwardly extending first portions and the upwardly and rearwardly arching portions (131a,132a) of the first and second clips (131,132) are joined together in a forwardly, upwardly and rearwardly arching head portion (410) which defines the locating recess (415) in which the front rim of the hat or cap visor is located in use.

6. A clip type lamp according to any of claims 1 to 4, further comprising:

a solar cell plate (200) mounted on the body (110).

7. A clip type lamp according to claim 6, wherein the solar cell plate (200) is detachably mounted on the body (110).

8. A clip type lamp according to claim 6 or claim 7, wherein:

the solar cell plate (200) is detachably mountable on the body (110) between the first and second clips (131,132); and coupling holes (170) are formed in the body (110); and wherein the solar cell plate (200) includes:

a solar cell plate body (210) positionable between the first (131) and second (132) clips; an extension member (220) extending from the solar cell plate body (210) in front of any visor to which the lamp is affixed; and power-supplying protrusions (230) extending from the extension member (220) in such a manner that the power-supplying protrusions (23) are detachably inserted into the coupling holes (170) when the solar cell plate (200) is mounted on the body (110) between the first (131) and second (132) clips to supply electrical power generated in the solar cell plate (200) to the battery accommodated in the body (110).

9. A clip type lamp according to any preceding claim, further comprising:

an ultrasonic wave generator accommodated in the body (110); and either a switch (140) for operating the electric bulbs (120) and the ultrasonic wave generator together

or switches (140) for operating the electric bulbs (120) and the ultrasonic wave generator separately.

10. A clip type lamp according to claim 9, wherein the or each switch (140) is installed on a bottom surface of the body (110). 5
11. A clip type lamp according to claim 9 or claim 10, wherein a plurality of ultrasonic wave ports (150) are formed at upper and lower portions of the body (110) so as to emit ultrasonic waves generated by the ultrasonic wave generator. 10
12. A clip type lamp according to any preceding claim, further comprising: 15

a connection jack (160) provided at one side of the body (110) for connection to an external power source so as to charge the battery. 20

Patentansprüche

1. Klemmlampe, welche folgende Merkmale aufweist: 25
- einen Körper (110), welcher eine leicht gekrümmte obere Oberfläche hat und darin eine Batterie beherbergt; 30
- eine Vielzahl elektrischer Birnen (120), welche an einem vorderen Abschnitt des Körpers (110) installiert sind, und
- eine Einrichtung zum lösbaren Befestigen der Lampe an einem Schirm einer Mütze, 35
- dadurch gekennzeichnet, dass** 35
- die Einrichtung (131, 132) zum lösbaren Befestigen der Lampe an einem Schirm einer Mütze erste und zweite Klemmen (131 und 132) aufweist, welche jeweils einen ersten Endabschnitt haben, welcher sich von einem vorderen Abschnitt des Körpers (110) nach vorne erstreckt und sich dann nach oben und nach hinten zu einem Mittelabschnitt (135 oder 136) krümmt, wobei er auf dem Körper (110) aufliegt und mit einem Schirm einer Mütze oder eines Hutes verbindbar ist, um den Schirm zwischen den Klemmen (131, 132) und der oberen Oberfläche des Körpers (110) zu klemmen, 50
- um den Körper (110) unterhalb des Schirms zu befestigen, und welcher in einem distalen Endabschnitt abschließt, welcher derart nach oben gekrümmt ist, dass die erste und die zweite Klemme (131 und 132) in einfacher Weise mit dem Schirm des Hutes oder der Mütze verbunden werden können, 55
- wobei sich der nach oben und hinten krüm-

mende Abschnitt (131 a oder 132a) jeder der ersten und zweiten Klemmen (131, 132) eine Sicherungsnische (131 b, 132b) aufweist, in welchem die Vorderkante des Schirms des Hutes oder der Mütze während des Einsatzes sicher eingerastet ist.

2. Klemmlampe nach Anspruch 1, welche folgende Merkmale aufweist:
- einen Ultraschallwellengenerator, welcher in dem Körper untergebracht ist, und einen Schalter (140) zum Betreiben der elektrischen Birnen und des Ultraschallwellengenerators.
3. Klemmlampe nach Anspruch 2, bei welcher der Schalter (140) von einer Bodenfläche des Körpers in halbkugelartiger Form vorragt.
4. Klemmlampe nach Anspruch 2, bei welcher eine Vielzahl von Ultraschallwellenanschlüssen (150) an oberen und unteren Abschnitten des Körpers (110) so ausgebildet sind, um Ultraschallwellen, welche von dem Ultraschallwellengenerator erzeugt sind nach außen zu senden.
5. Klemmlampe nach einem der vorhergehenden Ansprüche, bei welcher die sich nach vorne erstreckenden ersten Abschnitte und die sich nach oben und nach hinten krümmenden Abschnitte (131a, 132a) der ersten und zweiten Klemmen (131, 132) in einem nach vorne, oben und nach hinten gebogenen Kopfabschnitt (410) zusammengefasst sind, welcher die Aufnahmeausnehmung (415) definiert, in welchem die Vorderkante des Schirms des Hutes oder der Mütze im Einsatz angeordnet ist.
6. Klemmlampe nach einem der Ansprüche 1 bis 4, mit einer Solarzellenplatte (200), welche an dem Körper (110) angebracht ist.
7. Klemmlampe nach Anspruch 6, bei welcher die Solarzellenplatte (200) lösbar am Körper (110) angebracht ist.
8. Klemmlampe nach Anspruch 6 oder 7, bei welcher
- die Solarzellenplatte (200) an dem Körper (110) zwischen der ersten und der zweiten Klemme (131, 132) lösbar montierbar ist, und
- wobei in dem Körper (110) Kupplungslöcher (170) gebildet sind, und wobei die Solarzellenplatte (200) folgende Merkmale aufweist:
- einen Solarzellenplattenkörper (210), welcher zwischen der ersten (131) und der zweiten (132) Klemme angeordnet werden kann,

- ein Ausdehnungselement (220), welches sich von dem Solarzellenplattenkörper (210) vor jedem Schirm erstreckt, an welchem die Lampe befestigt ist, und
- Vorsprünge (230) zur Stromversorgung, welche sich von dem Ausdehnungselement (220) in der Art erstrecken, dass die Vorsprünge (230) zur Stromversorgung in den Kupplungslöchern (170) lösbar eingesetzt sind, wenn die Solarzellenplatte (200) an dem Körper (110) zwischen der ersten (132) und zweiten (132) Klemme montiert ist, um an die in dem Körper (110) untergebrachte Batterie elektrischen Strom, welcher in der Solarzellenplatte (200) erzeugt wurde, zu liefern.
9. Klemmlampe nach einem der vorhergehenden Ansprüche, die weitere folgende Vorteile Merkmale aufweist:
- einen Ultraschallwellengenerator, welcher in dem Körper (110) untergebracht ist, und
- entweder einen Schalter (140) um die elektrischen Birnen (120) und den Ultraschallwellengenerator zusammen zu betreiben,
- oder einen Schalter (140), um die elektrischen Birnen (120) und den Ultraschallwellengenerator separat zu betreiben.
10. Klemmlampe nach Anspruch 9, bei welcher der oder jeder Schalter (140) auf einer Bodenfläche des Körpers (110) installiert sind.
11. Klemmlampe nach Anspruch 9 oder Anspruch 10, bei welcher eine Vielzahl von Ultraschallwellenanschlüssen (150) an oberen und unteren Abschnitten des Körpers (110) gebildet sind, um Ultraschallwellen, welche von dem Ultraschallwellengenerator erzeugt wurden zu senden.
12. Klemmlampe nach einem der vorhergehenden Ansprüche, mit folgendem Merkmal:
- eine Verbindungsbuchse (160), welche an einer Seite des Körpers (110) zum Anschluss an eine externe Energiequelle vorgesehen ist, um die Batterie zu laden.

Revendications

1. Lampe du type à attache, comprenant :

un corps (110) comportant une surface supérieure incurvée de façon régulière et recevant une batterie à l'intérieur de celui-ci ;

une pluralité d'ampoules électriques (120) installées au niveau d'une partie avant du corps (110) ; et

des moyens pour attacher de façon détachable la lampe à une visière de casquette,

caractérisée en ce que :

les moyens (131, 132) pour attacher de façon détachable la lampe à une visière de casquette comprennent des première et deuxième attaches (131 et 132, respectivement) comportant chacune une première partie d'extrémité s'étendant vers l'avant à partir d'une partie avant du corps (110), puis en arche vers le haut et vers l'arrière vers une partie centrale (135 ou 136) surplombant le corps (110) et pouvant venir en prise avec une visière de casquette ou de chapeau de façon à piéger la visière entre les attaches (131, 132) et la surface supérieure du corps (110) de façon à fixer le corps (110) en dessous de la visière, et s'achevant par une partie d'extrémité distale qui est incurvée vers le haut de telle sorte que les première et deuxième extrémités (131 et 132) puissent facilement venir en prise avec la visière de chapeau ou de casquette, dans laquelle la partie en arche vers le haut et vers l'arrière (131a ou 132a) de chacune des première et deuxième attaches (131, 132) définit un trou de verrouillage (131b ou 132b) dans lequel le rebord avant de la visière de chapeau ou de casquette repose fermement lors de l'utilisation.

2. Lampe du type à attache selon la revendication 1, comprenant de plus :

un générateur d'ondes d'ultrasons reçu dans le corps ; et

un commutateur (140) pour actionner les ampoules électriques et le générateur d'ondes d'ultrasons.

3. Lampe du type à attache selon la revendication 2, dans laquelle le commutateur (140) fait saillie à partir d'une surface inférieure du corps sous une forme hémisphérique.

4. Lampe du type à attache selon la revendication 2, dans laquelle une pluralité de ports d'ondes d'ultrasons (150) sont formés au niveau de parties supérieure et inférieure du corps (110) de façon à émettre des ondes d'ultrasons, qui sont générées à partir du générateur d'ondes d'ultrasons, vers l'extérieur.

5. Lampe du type à attache selon l'une quelconque des revendications précédentes, dans laquelle les pre-

mières parties s'étendant vers l'avant et les parties en arche vers le haut et vers l'arrière (131a, 132a) des première et deuxième attaches (131, 132) sont réunies ensemble dans une partie de tête en arche vers l'avant, vers le haut et vers l'arrière (410) qui définit la cavité de positionnement (415) dans laquelle le rebord avant de la visière de chapeau ou de casquette est disposé lors de l'utilisation.

6. Lampe du type à attache selon l'une quelconque des revendications 1 à 4, comprenant de plus :

une plaque de cellules solaires (200) montée sur le corps (110) .

7. Lampe du type à attache selon la revendication 6, dans laquelle la plaque de cellules solaires (200) est montée de façon détachable sur le corps (110).

8. Lampe du type à attache selon la revendication 6 ou la revendication 7, dans laquelle :

la plaque de cellules solaires (200) peut être montée de façon détachable sur le corps (110) entre les première et deuxième attaches (131, 132) ; et

des trous de couplage (170) sont formés dans le corps (110) ; et dans laquelle la plaque de cellules solaires (200) comprend :

un corps de plaque de cellules solaires (210) pouvant être positionné entre les première (131) et deuxième (132) attaches ;
un élément d'extension (220) s'étendant à partir du corps de plaque de cellules solaires (210) à l'avant de toute visière sur laquelle la lampe est fixée ; et
des saillies d'alimentation (230) s'étendant à partir de l'élément d'extension (220) de telle manière que les saillies d'alimentation (23) soient insérées de façon détachable dans les trous de couplage (170) lorsque la plaque de cellules solaires (200) est montée sur le corps (110) entre les première (131) et deuxième (132) attaches, de façon à délivrer une énergie électrique générée dans la plaque de cellules solaires (200) à la batterie reçue dans le corps (110).

9. Lampe du type à attache selon l'une quelconque des revendications précédentes, comprenant de plus :

un générateur d'ondes d'ultrasons reçu dans le corps (110) ; et
soit un commutateur (140) pour actionner ensemble les ampoules électriques (120) et le générateur d'ondes d'ultrasons,
soit des commutateurs (140) pour actionner sé-

parément les ampoules électriques (120) et le générateur d'ondes d'ultrasons.

10. Lampe du type à attache selon la revendication 9, dans laquelle le commutateur (140) ou chaque commutateur (140) est installé sur une surface inférieure du corps (110).

11. Lampe du type à attache selon la revendication 9 ou la revendication 10, dans laquelle une pluralité de ports d'ondes d'ultrasons (150) sont formés au niveau de parties supérieure ou inférieure du corps (110), de façon à émettre des ondes d'ultrasons générées par le générateur d'ondes d'ultrasons.

12. Lampe du type à attache selon l'une quelconque des revendications précédentes, comprenant de plus :

une prise jack de connexion (160) disposée d'un côté du corps (110) pour la connexion à une source d'alimentation extérieure de façon à charger la batterie.

Fig. 1

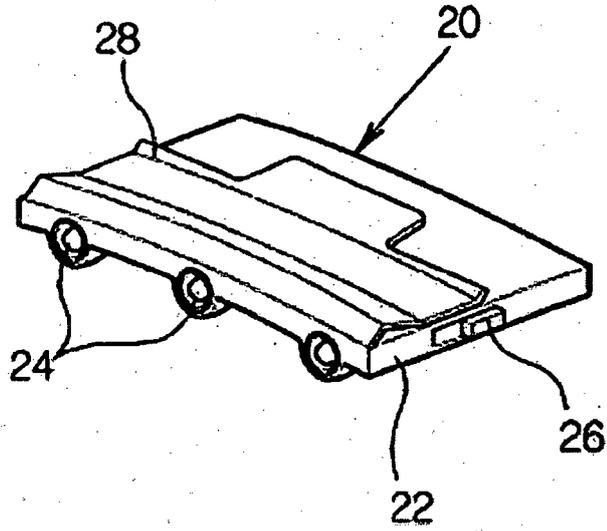
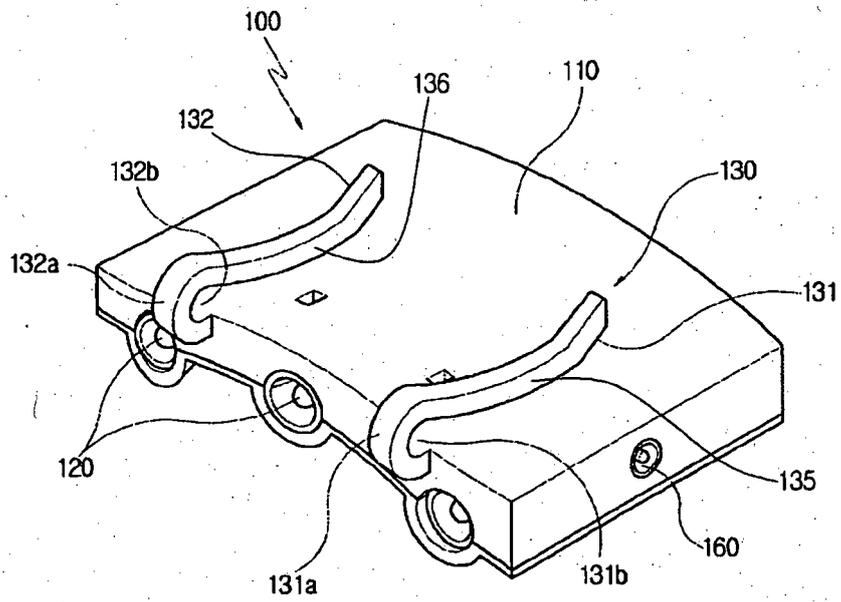
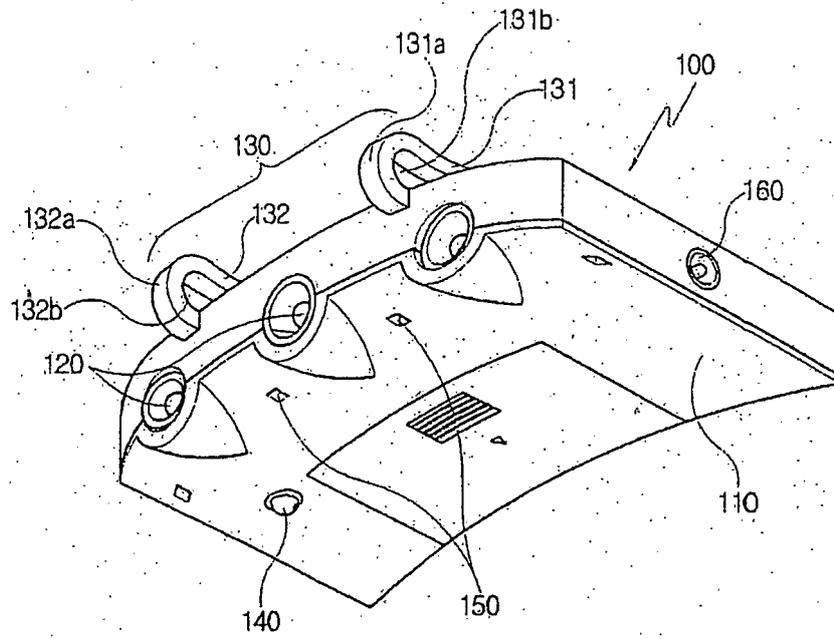


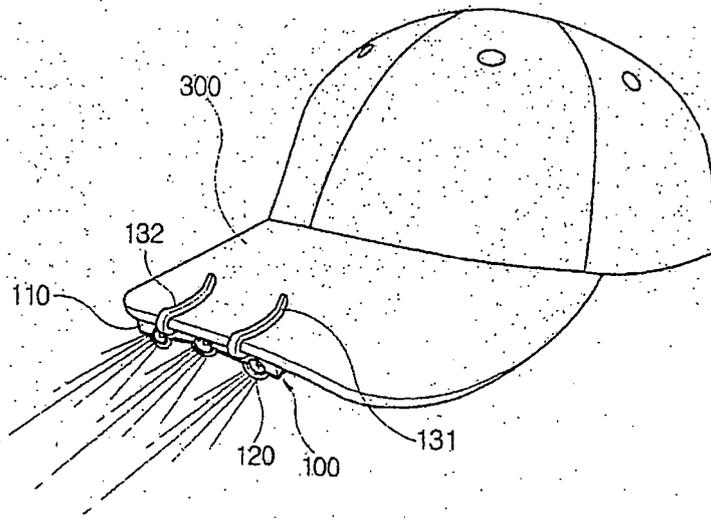
Fig. 2



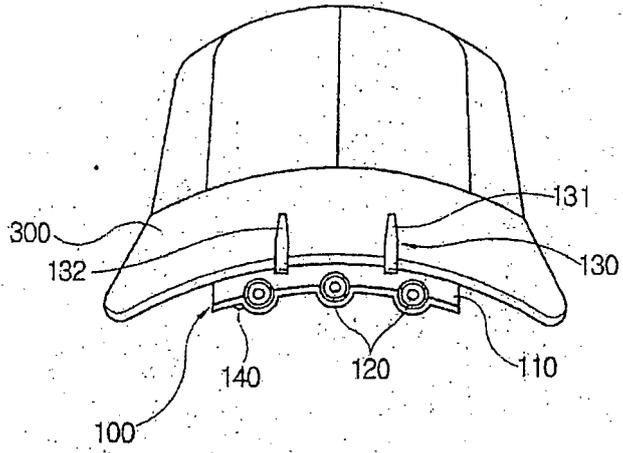
[Fig.3]



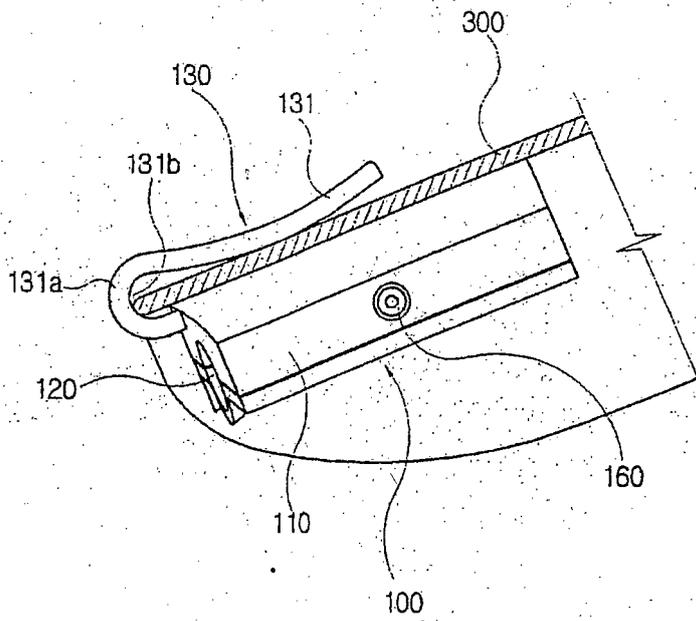
[Fig.4]



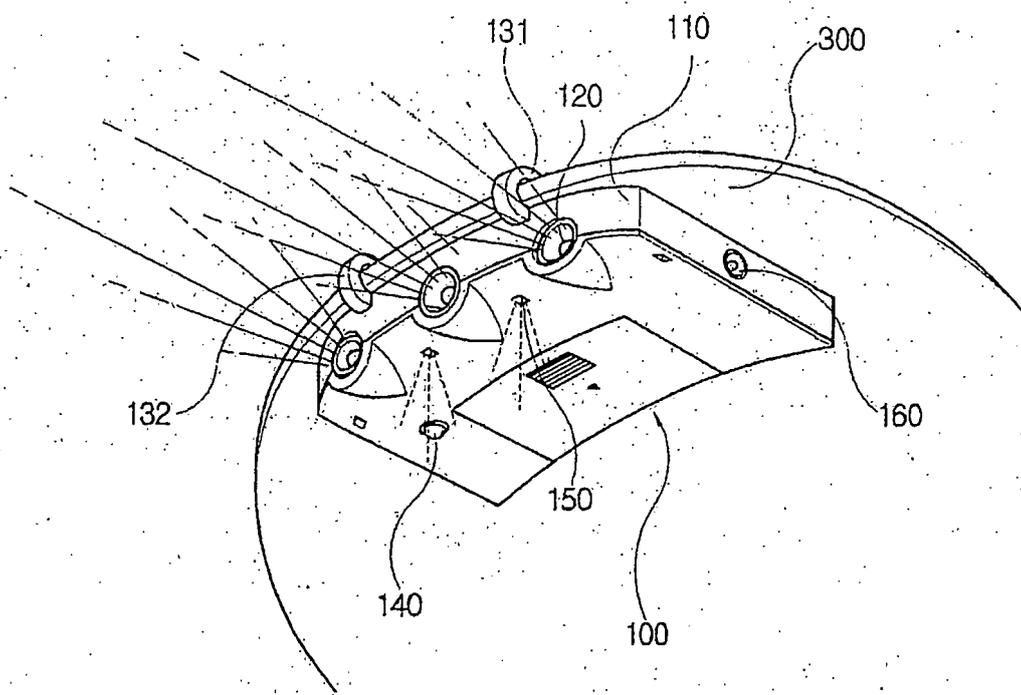
[Fig.5]



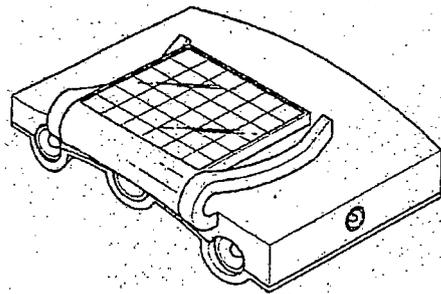
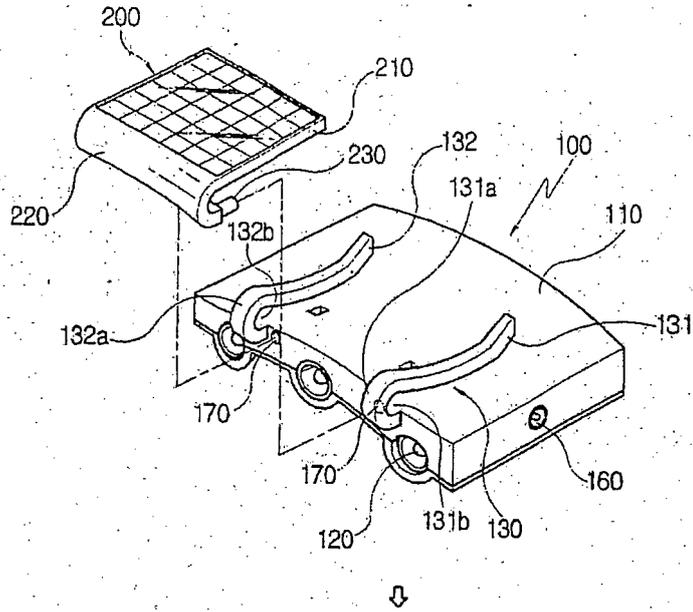
[Fig.6]



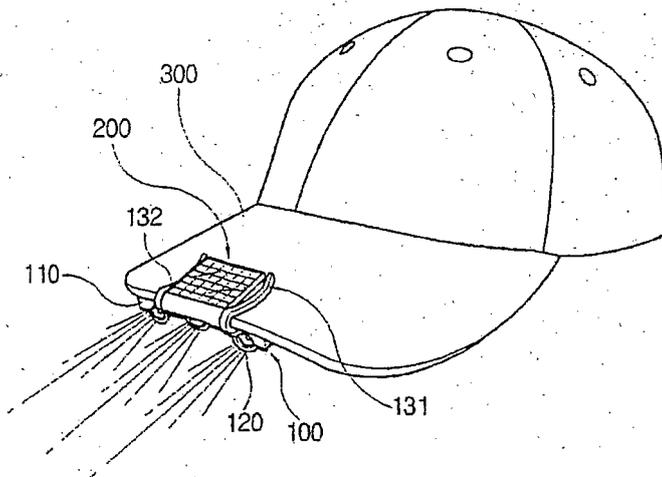
[Fig.7]



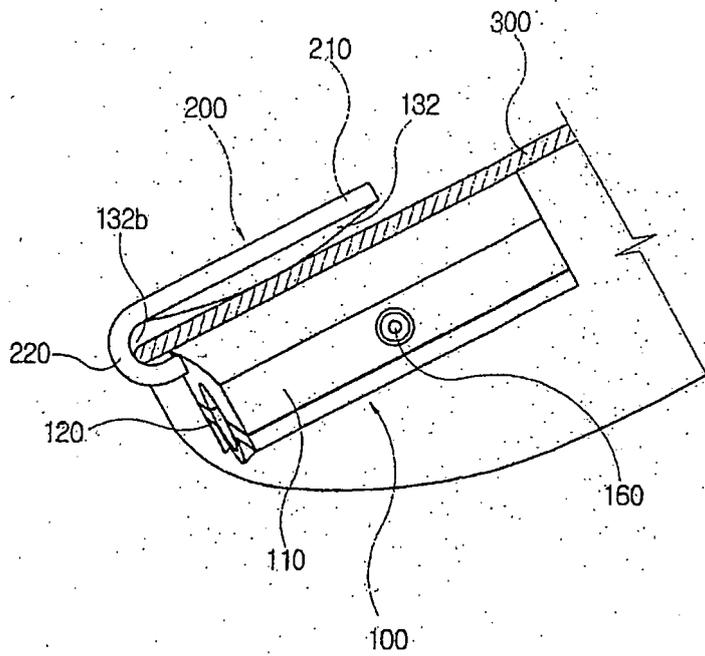
[Fig. 8]



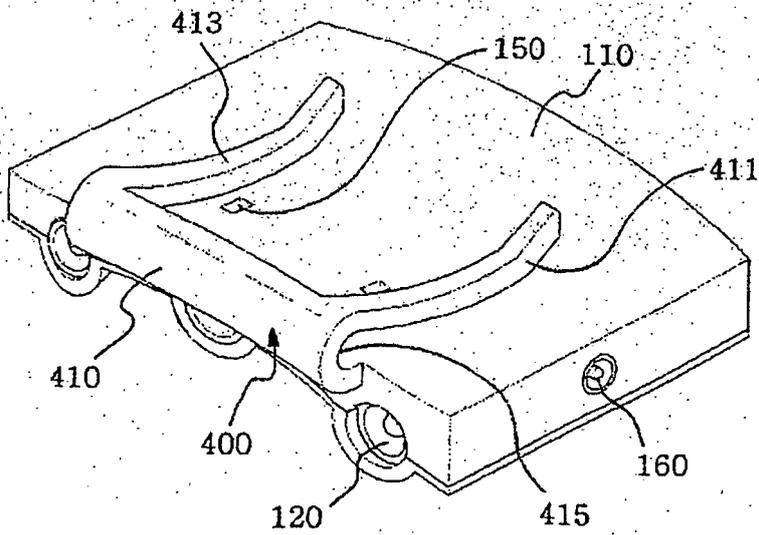
[Fig. 9]



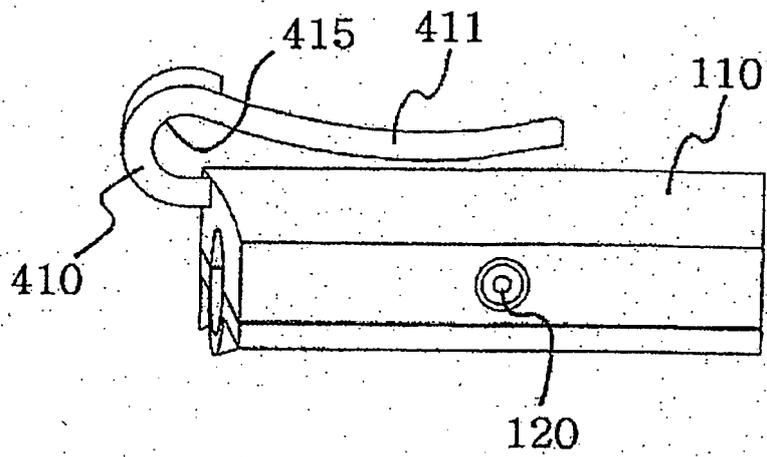
[Fig.10]



[Fig.11]



[Fig.12]



REFERENCES CITED IN THE DESCRIPTION

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