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CHIEN(10) **Pub. No.: US 2010/0308089 A1**(43) **Pub. Date: Dec. 9, 2010**(54) **CAMERA DEVICE****Publication Classification**(75) Inventor: **Justin CHIEN**, Taipei County
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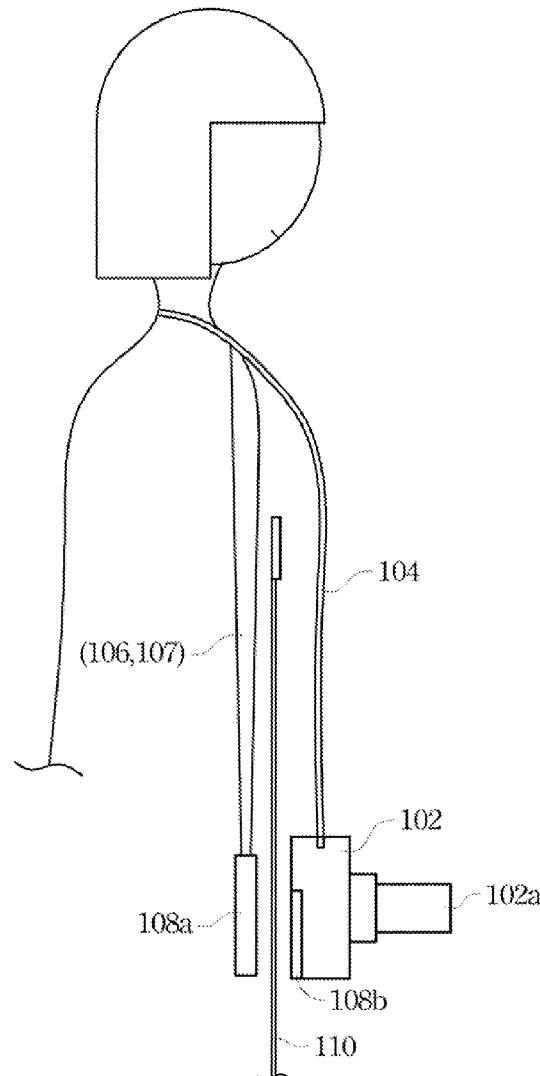
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Hong Kong (HK)(52) **U.S. Cl. 224/183**(73) Assignee: **COSMAY NEW**
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COUNTY (TW)(57) **ABSTRACT**

Disclosed herein is a camera device including a main body, a hang strap and a swivel-preventing device. The main body includes a first magnetic mutually-attracting component. The hang strap includes a support section to be hung on a hanger. The hang strap has two opposite ends respectively connected to the main body. The swivel-preventing device includes a second magnetic mutually-attracting component and an attachment strap. The attachment strap has an end connected to the second magnetic mutually-attracting component and an opposite end connected to the support section, wherein the first and second magnetic mutually-attracting components are configured to be mutually attracted.

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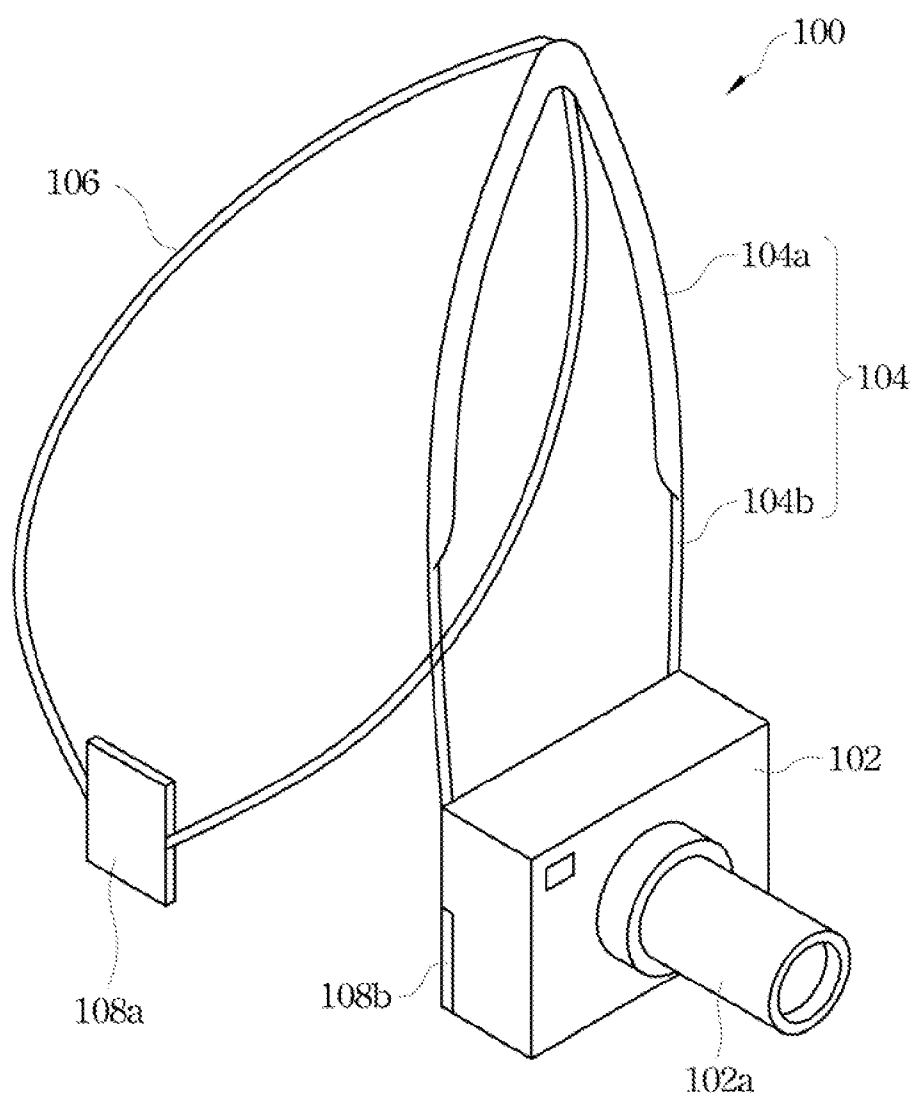


Fig: 1A

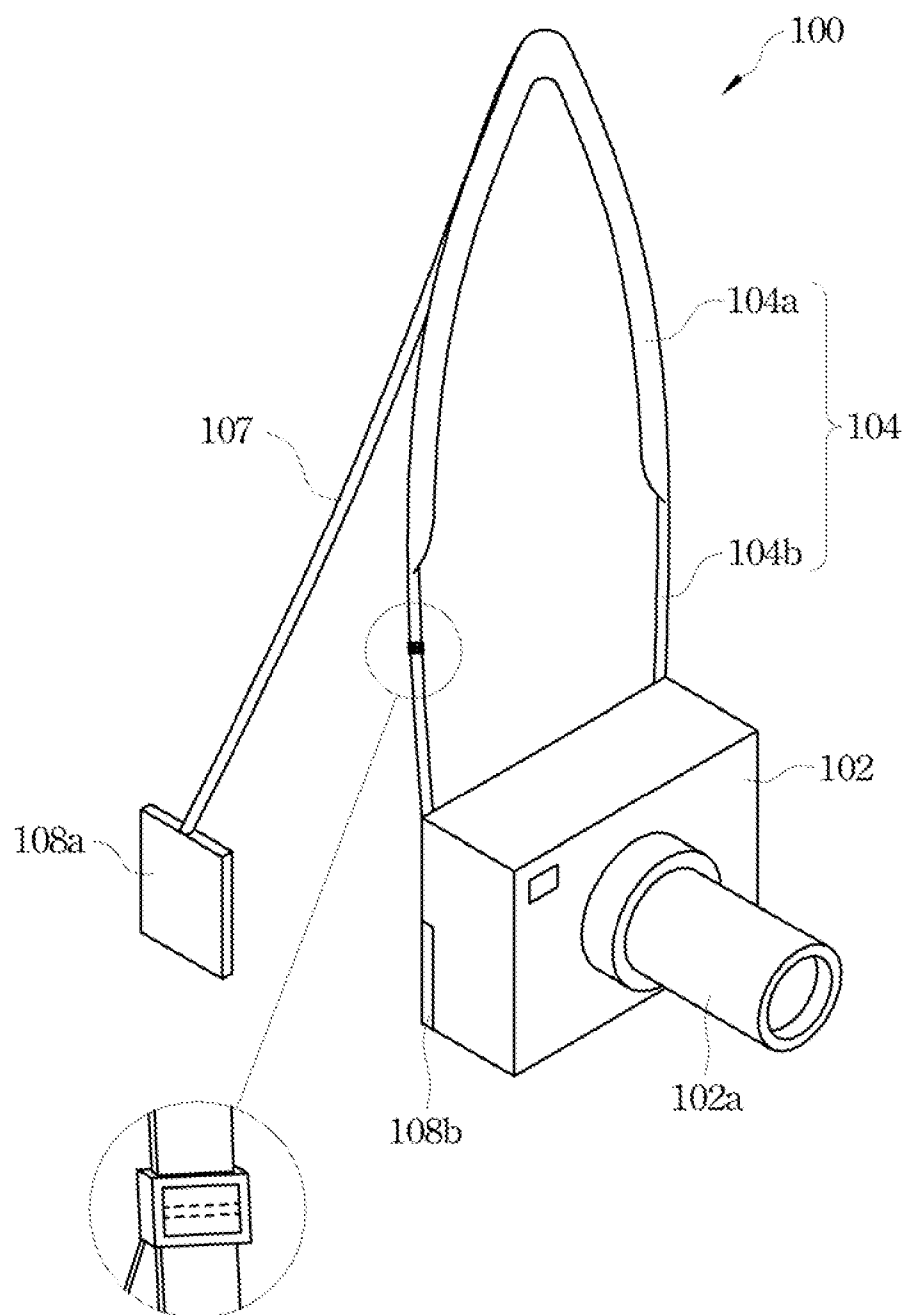


Fig: 1B

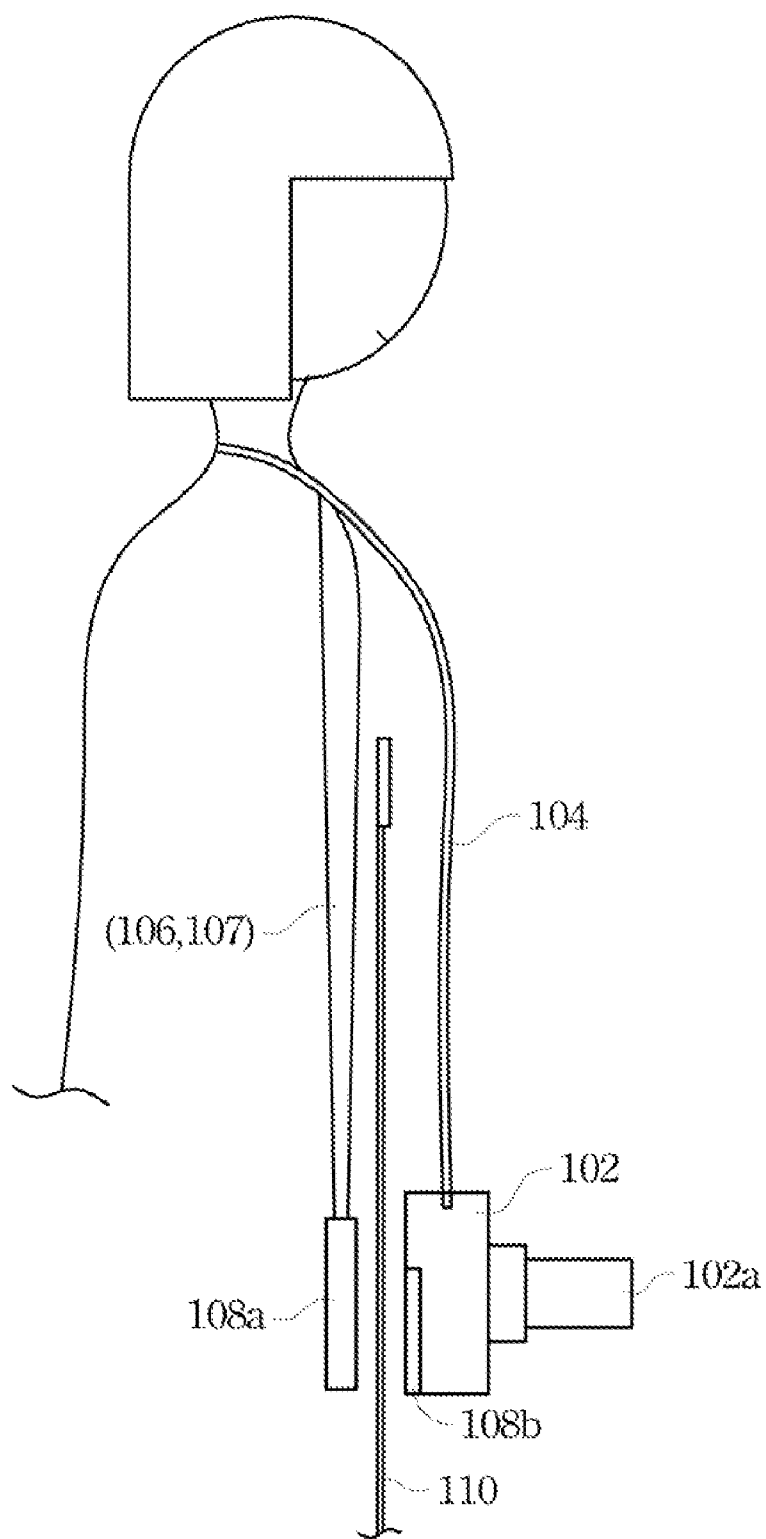


Fig: 2

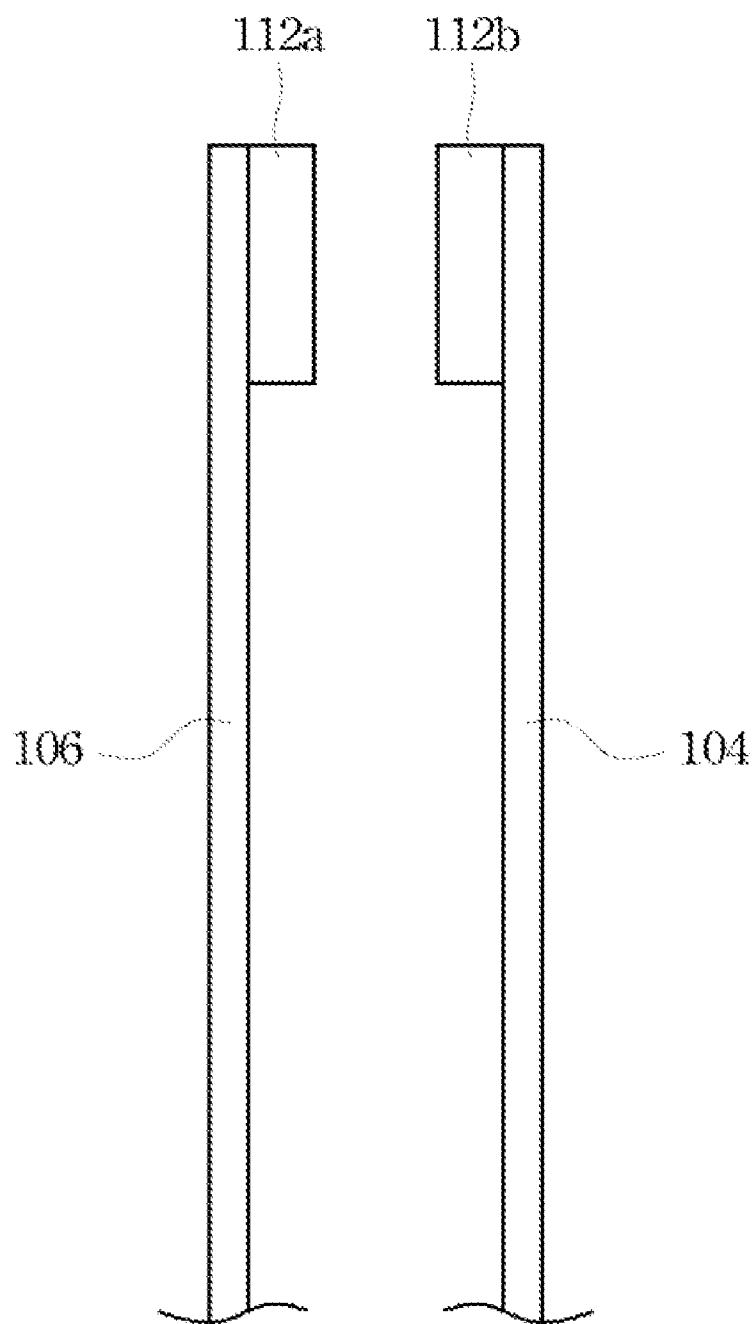


Fig: 3A

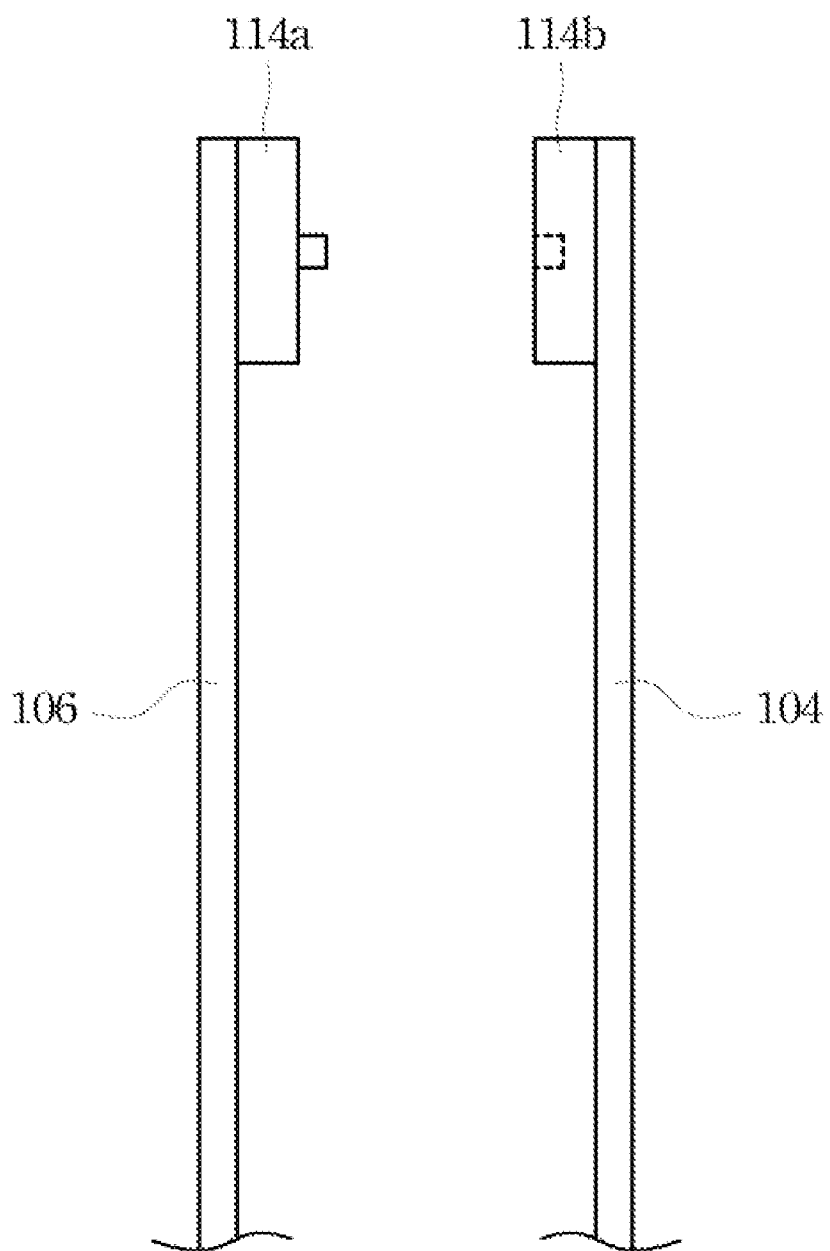


Fig: 3B

CAMERA DEVICE

RELATED APPLICATIONS

[0001] This application claims priority to Taiwan Application Serial Number 98209722, filed Jun. 3, 2009, which are herein incorporated by reference.

BACKGROUND

[0002] 1. Field of the Disclosure

[0003] The disclosure relates to a camera device and a swiveling-preventing device thereof.

[0004] 2. Description of Related Art

[0005] A camera device is one of major devices to record life experience for modern people. Equipped with various types of lenses, the camera is more able to snap images in different cases.

[0006] When a user isn't using the camera, the camera often hangs on a neck strap wrapped around the user's neck. When hanging from a neck strap, the camera often swivels and twists out of control due to the movement of the user's body. For example, when the user bends over, the camera swivels uncontrollably forwards. When the camera swivels too much the camera may collide with and be damaged by an object in the surrounding vicinity. For example, the lens head of the camera may be damaged due to a violent crash. For the forgoing reasons, there is a need for solving this problem.

SUMMARY

[0007] In accordance with one aspect of the present invention, a camera device is provided to include a main body, a hang strap and a swivel-preventing device. The main body includes a first magnetic mutually-attracting component. The hang strap includes a support section to be hung on a hanger. The hang strap has two opposite ends respectively connected to the main body. The swivel-preventing device includes a second magnetic mutually-attracting component and an attachment strap. The attachment strap has an end connected to the second magnetic mutually-attracting component and an opposite end connected to the support section, wherein the first and second magnetic mutually-attracting components are configured to be mutually attracted.

[0008] It is to be understood that both the foregoing general description and the following detailed description are by examples, and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The accompanying drawings are included to provide a further understanding of the invention, and are incorporated in and constitute a part of this specification. The drawings illustrate embodiments of the invention and, together with the description, serve to explain the principles of the invention. In the drawings,

[0010] FIG. 1A illustrates a perspective view of a camera device according to one embodiment of this invention;

[0011] FIG. 1B illustrates a perspective view of a camera device according to another embodiment of this invention;

[0012] FIG. 2 illustrates a camera device hung on a user's neck according to one embodiment of this invention; and

[0013] FIGS. 3A and 3B respectively illustrate two different fasteners for detachably connecting the straps of the camera device.

DESCRIPTION OF THE EMBODIMENTS

[0014] Reference will now be made in detail to the present embodiments of the invention, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers are used in the drawings and the description to refer to the same or like parts.

[0015] As mentioned above, the disclosure herein provides a camera device with a swivel-preventing device, positioned on the user's chest and inside the user's clothes, to magnetically attract the camera device outside the user's clothes and prevent it from uncontrollably swiveling to violently collide surrounding objects.

[0016] FIG. 1A illustrates a perspective view of a camera device according to one embodiment of this invention. A camera device 100 has a main body 102, a hang strap 104 and a swivel-preventing device. The main body 102 is equipped with components, which are common to an ordinary camera, such as a lens head. The main body 102 is equipped with a magnetic mutually-attracting component 108b. The hang strap 104 has two opposite ends respectively connected to two sides of the main body 102 such that the camera device 100 can be hung from a hanger. The hang strap 104 has a support section 104a and is hung around a hanger, such as a user's neck or shoulder. The hang strap 104 further has a connection section 104b for interconnecting between the support section 104a and the main body 102. In this embodiment, the support section 104a has a larger width than the connection section 104b in order to make the hanger feel more comfortable. The swivel-preventing device includes an attachment strap 106 and a magnetic mutually-attracting component 108a. The attachment strap 106 has one end connected to the support section 104a of the hang strap 104 and an opposite end connected to the magnetic mutually-attracting component 108a. In this embodiment, the attachment strap 106 is a ring-shaped strap to be hung around a user's neck. The way in which the swivel-preventing device is arranged is shown in FIG. 2 and described below.

[0017] The magnetic mutually-attracting components (108a and 108b) are a mutually-attracting pair, which has the following three options. (1) The magnetic mutually-attracting component 108a is a permanent magnet and the magnetic mutually-attracting component 108b is made from one or more ferromagnetic material(s). (2) The magnetic mutually-attracting component 108a is made from one or more ferromagnetic material(s) and the magnetic mutually-attracting component 108b is a permanent magnet. (3) Both the magnetic mutually-attracting components (108a and 108b) are permanent magnets. The ferromagnetic materials are, for example, iron, cobalt, nickel, alloy thereof or oxides thereof.

[0018] FIG. 1B illustrates a perspective view of a camera device according to another embodiment of this invention. This figure illustrates a swivel-preventing device different from that in FIG. 1A. In this embodiment, the attachment strap 107 is a long flat narrow strap, rather than a ring as illustrated in FIG. 1A. The long flat narrow component has two opposite ends respectively connected to the support section 104a of the hang strap 104 and the magnetic mutually-attracting component 108a. The connection section 104b of the hang strap 104 has a length-adjusting design (as illustrated in the enlarged view). The attachment strap 107 may

also have the same length-adjusting design. The way in which the swivel-preventing device is arranged is shown in FIG. 2 and described below.

[0019] FIG. 2 illustrates a camera device hung on a user's neck according to one embodiment of this invention. When the camera device 100 is hung around a user's neck, it has a swivel-preventing capability preventing itself from swiveling uncontrollably and colliding with surrounding objects. In particular, the main body 102 is hung around a user's neck by the hang strap 104, the magnetic mutually-attracting component 108a is hung by an attachment strap (106 or 107) to be on the user's chest and behind (or inside) the user's clothes 110, so as to magnetically attract the magnetic mutually-attracting component 108b across the user's clothes 110. In this embodiment, the magnetic mutually-attracting component 108b and the lens head 102a are located on two opposite sides of the main body 102. Because the user's clothes 110 restricts the magnetic mutually-attracting component 108a to be swiveled under control, the camera device 100 is prevented from swiveling uncontrollably and violently. The magnetic force between the magnetic mutually-attracting components (108a and 108b) should be strong enough to firmly fasten the magnetic mutually-attracting component 108a and the main body 102, and not so strong so as to prevent a user from detaching the main body 102 of the camera device 100 to continue taking photos. In this embodiment, the attachment strap 104 and the attachment strap (106 or 107) should be compatible in length to permit the magnetic mutually-attracting components (108a and 108b) to be mutually-attractable in position.

[0020] In an embodiment, the hang strap 106 and attachment strap 104 are detachably connected to permit the swivel-preventing device to be removed. FIGS. 3A and 3B respectively illustrate two different fasteners for detachably connecting the two straps of the camera device 100. In FIG. 3A, the hang strap 106 and attachment strap 104 are detachably connected by a pair of fabric hook-and-loop fasteners, such as Velcro fasteners. The hang strap 106 has a hook half 112a while the attachment strap 104 has a loop half 112b, or the hang strap 106 has a loop half 112a while the attachment strap 104 has a hook half 112b. In FIG. 3B, the hang strap 106 and attachment strap 104 are detachably connected by a pair of snap fasteners. For example, the hang strap 106 has a male half 114a while the attachment strap 104 has a female half 114b.

[0021] According to discussed embodiments, the present invention provides a camera device with its swivel-preventing device, positioned at a user's chest and inside the user's clothes, to magnetically attract the camera device and prevent it from uncontrollably swiveling to collide surrounding objects.

[0022] It will be apparent to those skilled in the art that various modifications and variations can be made to the struc-

ture of the present invention without departing from the scope or spirit of the invention. In view of the foregoing, it is intended that the present invention cover modifications and variations of this invention provided they fall within the scope of the following claims and their equivalents.

What is claimed is:

1. A camera device, comprising:
 - a main body comprising a first magnetic mutually-attracting component;
 - a hang strap comprising a support section to be hung on a hanger, the hang strap comprising two opposite ends respectively connected the main body; and
 - a swivel-preventing device comprising a second magnetic mutually-attracting component and an attachment strap, the attachment strap having an end connected to the second magnetic mutually-attracting component and an opposite end connected to the support section, wherein the first and second magnetic mutually-attracting components are configured to be mutually attractable.
2. The camera device of claim 1, wherein the first magnetic mutually-attracting component is a permanent magnet, the second magnetic mutually-attracting component is a permanent magnet.
3. The camera device of claim 1, wherein the first magnetic mutually-attracting component is a permanent magnet, the second magnetic mutually-attracting component is made from one or more ferromagnetic materials.
4. The camera device of claim 1, wherein the first magnetic mutually-attracting component is made from one or more ferromagnetic materials, the second magnetic mutually-attracting component is a permanent magnet.
5. The camera device of claim 1, wherein the attachment strap is a long flat narrow strap.
6. The camera device of claim 1, wherein the attachment strap is a ring-shaped strap.
7. The camera device of claim 1, wherein the attachment strap is detachably connected with the support section.
8. The camera device of claim 7, wherein the attachment strap is detachably connected with the support section by a pair of fabric hook-and-loop fasteners.
9. The camera device of claim 7, wherein the attachment strap is detachably connected with the support section by a pair of snap fasteners.
10. The camera device of claim 1, wherein the attachment strap is a length-adjustable strap.
11. The camera device of claim 1, wherein the hang strap is a length-adjustable strap.
12. The camera device of claim 1, wherein the main body further comprises a lens head, the lens head and the first magnetic mutually-attracting component are disposed on two opposite sides of the main body.

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