A sight includes an objective barrel and a dust cap connected to the objective barrel. The dust cap includes a main body, a cover, a first flexible element, and a second flexible element. The cover is connected to the main body. The first flexible element is connected to the main body and includes an inner surface. The second flexible element is disposed in the first flexible element and includes an outer surface wherein the outer surface of the second flexible element contacts the inner surface of the first flexible element.
SIGHT AND DUST CAP THEREOF

RELATED APPLICATION

[0001] This application claims the benefit of foreign priority to Taiwan Invention Patent Application No. TW71021200644, filed on Jun. 6, 2013, the entire contents of which are incorporated herein by reference for all purposes.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention
[0003] The invention relates to a sight and a dust cap thereof.
[0004] 2. Description of the Related Art
[0005] Referring to FIGS. 1A and 1B, a known dust cap 10 includes a main body 11, a cover 13, and a first flexible element 15. The dust cap 10 is attached to an objective barrel 22 of the sight 20 to prevent the sight 20 from dust. The dust cap 10 has a first flexible element 15 which tightly holds the objective barrel 22 by means of the flexibility thereof and the frictions between the first flexible element 15 and the objective barrel 22. However, an accidental separation of the dust cap from the sight may occur due to external impacts or vibrations. Therefore, the user needs to pay more attentions to the dust cap. A solution is to increase the interference between the first flexible element 15 and the objective barrel 22. That is, the frictions between the first flexible element 15 and the objective barrel 22 are increased to avoid the described problem. To achieve this, the thickness or length of the first flexible element 15 is necessarily increased that results in interference between the sight 10 and other parts so that use of the sight is inconvenient. Also, the dust cap 10 may deviate from the normal position due to the increased thickness or length of the first flexible element 15.

BRIEF SUMMARY OF THE INVENTION

[0006] The invention provides a sight and a dust cap to address the shortcomings discussed. An accidental separation of the dust cap from the sight can be effectively avoided without increasing the thickness or length of the first flexible element.
[0007] The dust cap in accordance with an exemplary embodiment of the invention includes a main body, a cover, a first flexible element, and a second flexible element. The cover is connected to the main body. The first flexible element is connected to the main body and includes an inner surface. The second flexible element is disposed in the first flexible element and includes an outer surface wherein the outer surface of the second flexible element contacts the inner surface of the first flexible element.

[0008] In another exemplary embodiment, the second flexible element further comprises a raised portion on the inner surface of the second flexible element.
[0009] In yet another exemplary embodiment, the second flexible element is circular arc shaped.
[0010] In another exemplary embodiment, the first flexible element is made of rubber or silica gel.
[0011] In yet another exemplary embodiment, the second flexible element is made of plastic.

[0012] The invention further provides a sight. The sight in accordance with an exemplary embodiment of the invention includes an objective barrel and a described dust cap connected to the objective barrel.

[0013] In another exemplary embodiment, the second flexible element holds the objective barrel, and the first flexible element holds the objective barrel and the second flexible element.
[0014] In yet another exemplary embodiment, the objective barrel includes a surface on which a groove is defined, the second flexible element further includes a raised portion on the inner surface, and the raised portion is fitted in the groove.
[0015] In another exemplary embodiment, the groove is V-shaped, U-shaped, or rectangular.
[0016] In yet another exemplary embodiment, the second flexible element is made of plastic.
[0017] A detailed description is given in the following embodiments with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The invention can be more fully understood by reading the subsequent detailed description and examples with references made to the accompanying drawings, wherein:
[0019] FIG. 1A is a schematic diagram of a sight provided with a conventional dust cap;
[0020] FIG. 1B is a local enlarged view of FIG. 1A;
[0021] FIG. 2 is an exploded diagram of a dust cap in accordance with an embodiment of the invention;
[0022] FIG. 3A is a schematic diagram of a sight provided with a dust cap of an embodiment of the invention; and
[0023] FIG. 3B is local enlarged view of FIG. 3A.

DETAILED DESCRIPTION OF THE INVENTION

[0024] The following description is of the best-considered mode of carrying out the invention. This description is made for the purpose of illustrating the general principles of the invention and should not be taken in a limiting sense. The scope of the invention is best determined by reference to the appended claims.

[0025] Referring to FIG. 2, a dust cap 30 in accordance with an embodiment of the invention includes a main body 31, a cover 33, a first flexible element 35, and a second flexible element 37. The cover 33 includes a first shaft 331 and a second shaft (not shown). The second flexible element 37 has an inner surface on which a raised portion 371 is formed.

[0026] The first flexible element 35, made of for example rubber or silica gel, can be stretched under external force and restored when the external force is removed. The main body 31 and the first flexible element 35 are firmly connected. The cover 33 is connected to the main body 31 through the first shaft 331 and the second shaft. Thus, the cover 33 is rotatable via the first shaft 331 and the second shaft to cover or uncover the main body 31. The second flexible element 37 is circular arc shaped and opens downward. The second flexible element 37 is made of for example, plastic. When an external force is applied to the second flexible element 37, the second flexible element 37 opens more. When the external force is removed, the second flexible element 37 restores to its original shape. The second flexible element 37 is disposed in the first flexible element 35. The outer surface of the second flexible element 37 contacts the inner surface of the first flexible element 35.

[0027] Referring to FIGS. 3A and 3B, the dust cap 30 is attached to the objective barrel 22. In operation, the cover 33 is opened to uncover the main body 31 so that the user can aim at a target through the eyepiece barrel 24. When not in use, the cover 33 is closed to cover the main body 31 for preventing
the sight 20 from dust. The objective barrel 22 of the sight 20 is held by the first flexible element 35 and the second flexible element 37 of the dust cap 30 as shown in FIG. 3B. The objective barrel 22 includes a V groove 221. The second flexible element 37 includes a raised portion 371 fitted into the V groove 221, thereby holding the objective barrel 22. The second flexible element 37 is able to tightly hold the objective barrel 22 due to its flexibility. The first flexible element 35 holds the objective barrel 22 and the second flexible element 37. The first flexible element 35 is able to tightly hold the objective barrel 22 and the second flexible element 37 due to the reaction force therebetween. Therefore, accidental separation of the dust cap 30 from the sight 20 can be effectively avoided.

[0028] It is understood that the V groove 221 can be replaced with a U groove, a rectangular groove etc. that also belongs to the category of the invention.

[0029] While the invention has been described by way of example and in terms of preferred embodiment, it is to be understood that the invention is not limited thereto. To the contrary, it is intended to cover various modifications and similar arrangements (as would be apparent to those skilled in the art). Therefore, the scope of the appended claims should be accorded the broadest interpretation so as to encompass all such modifications and similar arrangements.

What is claimed is:

1. A dust cap, comprising:
   - a main body;
   - a cover connected to the main body;
   - a first flexible element, connected to the main body, comprising an inner surface; and
   - a second flexible element, disposed in the first flexible element, comprising an outer surface wherein the outer surface of the second flexible element contacts the inner surface of the first flexible element.

2. The dust cap as claimed in claim 1, wherein the second flexible element further comprises a raised portion on the inner surface of the second flexible element.

3. The dust cap as claimed in claim 1, wherein the second flexible element is circular arc shaped.

4. The dust cap as claimed in claim 1, wherein the first flexible element is made of rubber or silica gel.

5. The dust cap as claimed in claim 1, wherein the second flexible element is made of plastic.

6. A sight, comprising:
   - an objective barrel; and
   - a dust cap as claimed in claim 1, connected to the objective barrel.

7. The sight as claimed in claim 6, wherein the second flexible element holds the objective barrel, and the first flexible element holds the objective barrel and the second flexible element.

8. The sight as claimed in claim 6, wherein the objective barrel comprises a surface on which a groove is defined, the second flexible element further comprises a raised portion on the inner surface, and the raised portion is fitted in the groove.

9. The sight as claimed in claim 8, wherein the groove is V-shaped, U-shaped, or rectangular.

10. The sight as claimed in claim 6, wherein the second flexible element is made of plastic.

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