An exemplary scope mount includes a connecting base and a buffer. The connecting base includes a fixing groove for connecting a gun body. The fixing groove extending passing through two opposite sides of the connecting base. The connecting base also includes a receiving groove opposite to the fixing groove for receiving a buffer. The connecting base further includes two securing grooves at two opposite sides of the receiving groove for fixing a scope. The buffer can decrease the effect of the recoil strength to the lens inside the scope. In operation, the instant pull from the gun body to the scope mount and from the scope to internal lens of the scope can be correspondingly minimized, thereby protecting the internal lens of the scope. Moreover, the connecting base can be rapidly mounted to or removed from gun body due to fixing groove.
Fig. 10
DAMPING SCOPE MOUNT

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention is related to Scope mounting and damping devices, and particularly to a gun Scope mount used to fix a scope to a gun body with damping protection to avoid the scope damage by recoil.

[0003] 2. Description of the Related Art

[0004] In order to suit the convenience of aiming at a target, improve the shooting accuracy, a scope normally will be mounted on the gun body. Typically, the scope is a detachable portion to the top of the gun by a scope mount. Along with the development of technology, the gun and ammo greatly improved precision to shoot longer distances, for this reason, the scope gradually becomes basic equipment with a gun, specially in Rifle. However, with the wide use of the scope, one of the problem thereof are also disclosed — Recoil strength damage the scope. The gun instantly generates recoil strength in shooting process. The recoil is a reaction strength for shooting the bullets. Because a group of heavy high quality optical lens precise installed in the scope, the recoil strength will deadly damage the precise optical lens inside the scope. In detail, when firing, the recoil strength acts on the gun body with scope mount and scope moving back in higher acceleration of gravity, the scope due to inertia will keep its position, but the rigid scope mount connection between the scope and the gun body, the gun body pulls back the scope together via the scope mount. More precise or higher magnify scope will have move heavy high quality lens, the inertia force more strong. Therefore, the lens inside the scope can easily be crack or misalignment. The fixing bolts of the scope mount are also easily be tear or crack. Thus, the shooter needs to frequently replace the damaged scope or re-alignment, this brings inconvenience to the shooter, specially more serious affect the hunter and sniper.

SUMMARY OF THE INVENTION

[0005] One object of the present invention is to overcome the above mentioned shortcomings of the conventional technology and provide a scope mount. The scope mount includes a damping function between gun body and scope to minimize the recoil strength, thereby protecting the internal lens inside the scope.

[0006] In order to realize the objection of the present invention, one embodiment of the present invention provides a scope mount including a connecting base and a buffer. The connecting base includes a fixing groove for connecting a gun body. The fixing groove extending passing through two opposite sides of the connecting base. The connecting base also includes a receiving groove opposite to the fixing groove and configured to receive a buffer. The buffer is received in the fixing groove. The connecting base further includes two securing grooves arranged at two opposite sides of the receiving groove and configured to fix a scope.

[0007] In one embodiment, the connecting base includes two opposite connecting units, each connecting unit includes a threaded through hole in its side surface, the two connecting units are fixed together by threaded bolt or a locking device.

[0008] In one embodiment, the connecting base includes two opposite connecting units, each connecting unit includes a through hole in its side surface, the two opposite connecting unit are correspondingly connected to each other by a locking device, the locking device includes a bolt and a lever clamp, the bolt includes a lockhole defined at a free end of the bolt extended perpendicular to an axis of the bolt, the lever clamp is rotatably connected to the free end of the bolt via a pivot.

[0009] In one embodiment, the connecting base includes an upper connecting unit and an under connecting unit, the receiving groove and the securing groove are formed in the upper connecting unit, the fixing groove is formed in the under connecting unit, each of the upper connecting unit and the under connecting unit includes a threaded hole defined therein, the upper connecting unit and the under connecting unit are fixed together by engagement of threaded bolts and the threaded holes.

[0010] In one embodiment, the buffer includes a column shell and a plunger, one end of the plunger is embedded in the column shell and the other end of the plunger is exposed out from the column shell to face one of the securing grooves.

[0011] In one embodiment, the buffer is a hydraulic buffer.

[0012] In one embodiment, the buffer is an air buffer.

[0013] In one embodiment, the fixing groove is configured in a T-shaped fashion.

[0014] An improvement of the present invention is that the connecting base having a buffer disposed thereon, two securing grooves are arranged at two opposite sides of the receiving groove for fixing a scope, two scope locking rings are provided at opposite ends of the scope corresponding to the securing grooves. The scope can be fixed to scope mount by receiving the scope lock ring into the securing grooves. One of the scope lock ring resist against the plunger to decrease the effect of the recoil strength to the lens inside the scope via the buffer, thereby effectively preventing the lens inside the scope from damage. Furthermore, the connecting base includes fixing groove corresponding to configuration of the gun body, and the connecting base can be rapidly mounted or removed.

[0015] Other objectives, features and advantages of the present scope mount will be further understood from the further technological features disclosed by the embodiments of the present scope mount wherein there are shown and described preferred embodiments of this scope mount, simply by way of illustration of modes best suited to carry out the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] These and other features and advantages of the various embodiments disclosed herein will be better understood with respect to the following description and drawings, in which like numbers refer to like parts throughout.

[0017] FIG. 1 is a schematic, isometric view of scope mount according to a first embodiment;

[0018] FIG. 2 is a schematic, top view of the scope mount of FIG. 1;

[0019] FIG. 3 is a schematic, cross-sectional view of FIG. 2 taking along line A-A;

[0020] FIG. 4 is a schematic, exploded view of a scope locking ring used to fix a scope to of the scope mount of FIG. 1;

[0021] FIG. 5 is a schematic, exploded view of another scope locking ring used to fix a scope to the scope mount of FIG. 1;

[0022] FIG. 6 is a schematic, isometric view of scope mount according to a second embodiment;

[0023] FIG. 7 is a schematic, top view of the scope mount of FIG. 6;
DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. 1 to 3, a scope mount according to a first embodiment of the present invention is shown. The scope mount includes a connecting base 1 and a buffer 2. The connecting base 1 includes a fixation groove 1a defined in a bottom surface and configured to connect a gun body. The fixation groove 1a extends passing through two opposite ends of the connecting base 1. The connecting base 1 further includes a receiving groove 1b defined in a top surface opposite to the fixation groove 1a and configured to dispose the buffer 2. The buffer 2 is received and fixed in the receiving groove 1b. The connecting base 1 also includes two securing grooves 1c defined in the top surface adjacent two opposite sides of the receiving groove 1b and configured to fix a scope (not shown).

In this embodiment, the connecting base 1 includes two symmetrical connecting units 3. Each connecting units 3 includes at least one threaded hole 3a passing through its side surfaces. The two connecting units 3 can be fixed together by engagement of a threaded bolt 4 and the threads holes 3a.

The buffer 2 includes a column shell 2a and a plunger 2b coaxial with the column shell 2a. One end of the plunger 2b is embedded in the column shell 2a and the other end of the plunger 2b is exposed out from the column shell 2a to face one of the securing grooves 1c.

In one embodiment, the buffer is a hydraulic buffer or an air buffer. The securing grooves 1c are configured in square fashion. The fixation groove 1a is configured in a swallow-tail shaped fashion or a T-shaped fashion.

When the scope mount of the first embodiment is in use, the connecting base 1 is directly fixed to a main body of a gun (not shown). As shown in FIG. 4, a scope locking ring 5 is also provided to tightly fix the scope into the securing groove 1c of the connecting base 1. The scope locking ring 5 includes two assembly units 5a. Each assembly unit 5a includes an internal surface whose cross-section is semi-circle. The two assembly units 5a connect to each other by bolts 6. One of the assembly units 5a includes a securing block 7 corresponding to the securing groove 1c of the connecting base 1. The scope can be fixed to the connecting base 1 by receiving and fixing the securing block 7 of the scope locking ring 5 into the securing groove 1c.

FIG. 5 shows a configuration of another scope locking ring 5. As shown in FIG. 5, the scope locking ring 5 also includes two assembly units 5a, a connecting board 5b connected with the assembly units 5a, and a securing block 7 corresponding to the securing groove 1c. The two assembly units 5a connect to each other by bolts 6. The connecting board 5b and the securing block 7 are tightly connected to the assembly units 5a by bolts 12.

Referring to FIGS. 6 to 8, a scope mount according to a second embodiment of the present invention is shown. The scope mount differs from the first embodiment in that the connecting base 1 includes an upper connecting unit 8 and an under connecting unit 9. The receiving groove 1b and the securing groove 1c is formed in the upper connecting unit 8 and the fixing groove 1a is formed in the under connecting unit 9. Each of the upper connecting unit 8 and the under connecting unit 9 includes threaded holes defined therein. Similar to the first embodiment, the upper connecting unit 8 and the under connecting unit 9 can be fixed together by engagement of threaded bolt 11 and the threaded holes 10.

Referring to FIGS. 9 to 10, a scope mount according to a third embodiment of the present invention is shown. The scope mount of the third embodiment differs from the first embodiment in that the connecting base 1 includes two opposite connecting units 3 arranged in the left and the right, correspondingly. Each connecting unit 3 includes two through holes 3b passing through its side walls. The two opposite connecting units 3 are correspondingly connected to each other by a locking device. The locking device includes a bolt 13 and a lever clamp 14. The bolt 13 includes a lockhole defined at a free end of the bolt 13. The lockhole is extended perpendicular to an axis of the bolt 13. The lever clamp 14 is rotatably connected to the free end of the bolt 13 via a pivot 15 passing through the lockhole. When the bolt 13 is received in the two through holes 3b and the lever clamp 14 is pulled to substantially resist against a side surface of one connecting unit 3, the two connecting units 3 can be tightly fixed together.

The above description is given by way of example, and not limitation. Given the above disclosure, one skilled in the art could devise variations that are within the scope and spirit of the invention disclosed herein, including configurations ways of the scope mount and/or designs of scope mount. Further, the various features of the embodiments disclosed herein can be used alone, or in varying combinations with each other and are not intended to be limited to the specific combination described herein. Thus, the scope of the claims is not to be limited by the illustrated embodiments.

What is claimed is:

1. A scope mount comprising a connecting base and a buffer, the connecting base comprising:
   - a fixing groove configured to connect a gun body, the fixing groove extending passing through two opposite sides of the connecting base;
   - a receiving groove opposite to the fixing groove and configured to receive the buffer; and
   - two securing grooves arranged at two opposite sides of the receiving groove and configured to fix a scope.

2. The scope mount of claim 1, wherein the connecting base comprises two opposite connecting units, each connecting unit comprises a through hole in its side surface, the two connecting units are fixed together by threaded bolt or a locking device.

3. The scope mount of claim 1, wherein the connecting base comprises two opposite connecting units, each connecting unit comprises a through hole in its side surface, the two opposite connecting units are correspondingly connected to each other by a locking device, the locking device comprises a bolt and a lever clamp, the bolt comprises a lockhole defined at a free end and extended perpendicular to an axis of the bolt, the lever clamp is rotatably connected to the free end of the bolt via a pivot.

4. The scope mount of claim 1, wherein the connecting base comprises an upper connecting unit and an under connecting unit, the receiving groove and the securing groove are formed in the upper connecting unit, the fixing groove is formed in the under connecting unit, each of the upper con-
necting unit and the under connecting unit comprises a threaded hole defined therein, the upper connecting unit and the under connecting unit are fixed together by engagement of threaded bolts and the threaded holes.

5. The scope mount of claim 1, wherein the buffer comprises a column shell and a plunger, one end of the plunger is embedded in the column shell and the other end of the plunger is exposed out from the column shell to face one of the securing grooves.

6. The scope mount of claim 5, wherein the buffer is a hydraulic buffer.

7. The scope mount of claim 5, wherein the buffer is an air buffer.

8. The scope mount of claim 1, wherein the fixing groove is configured in a swallowtail-shaped fashion or a T-shaped fashion.