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(54) **RECORDING DEVICE THAT ATTACHES TO
A WEAPON USED FOR SPORT**

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(57) **ABSTRACT**

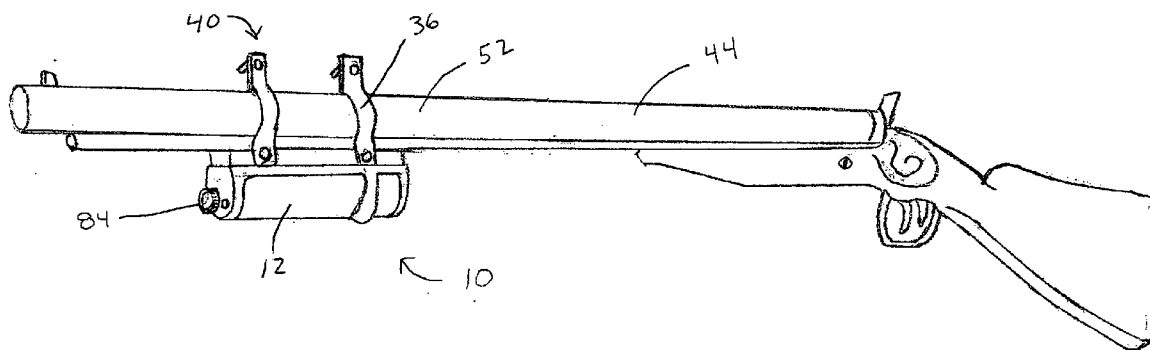
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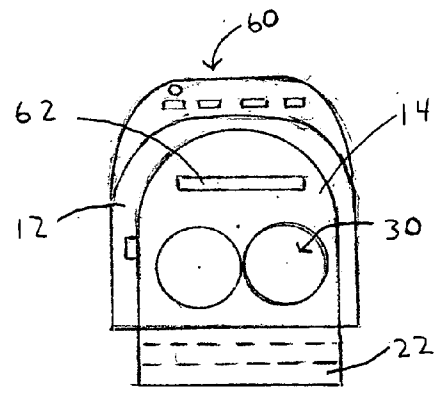
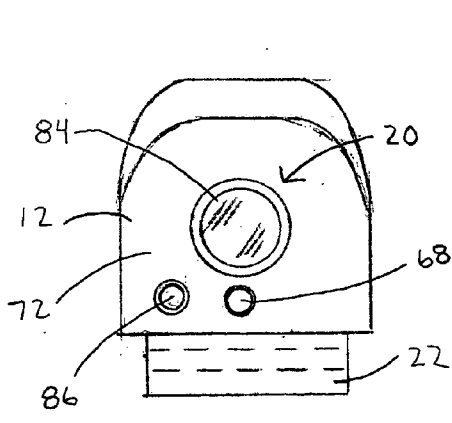
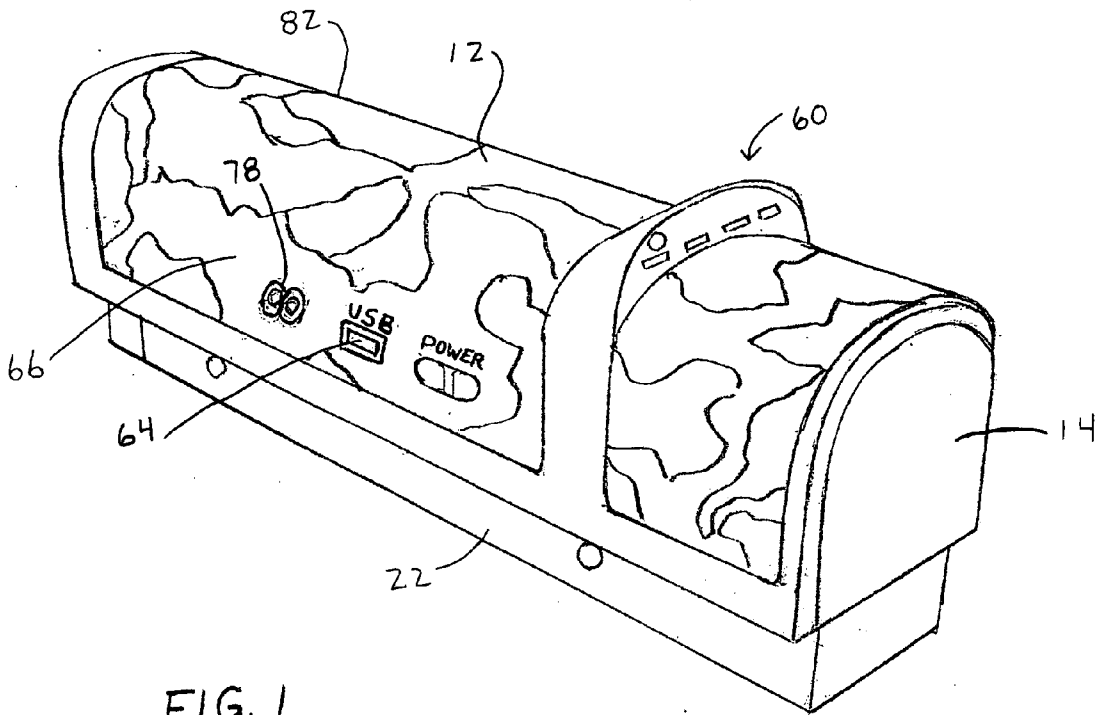
An apparatus that attaches to a predetermined weapon for recording a pre-selected event. The apparatus includes a housing member having a predetermined size and a predetermined shape. A device is disposed in the housing member for recording such pre-selected event. A power source is disposed in the housing member and connected to the recording device for providing power thereto. An attachment device is used to secure the housing member to such predetermined weapon.

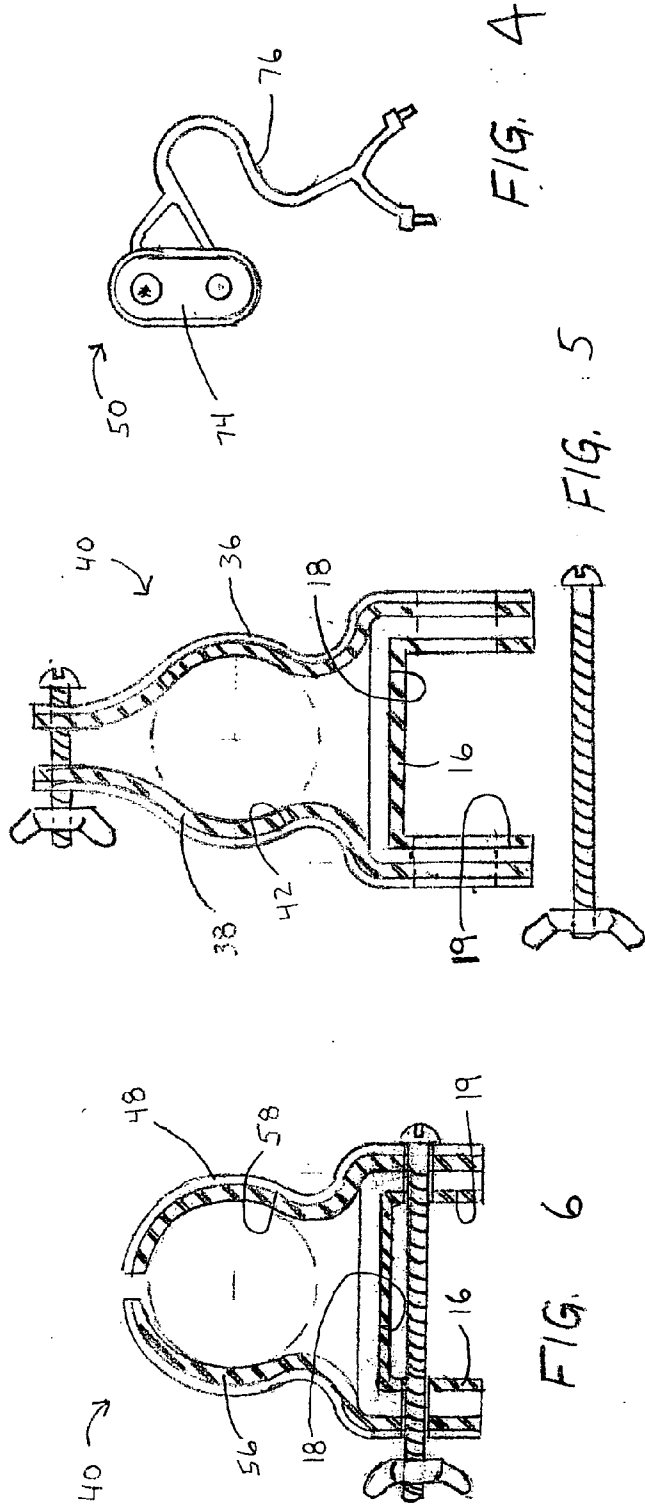
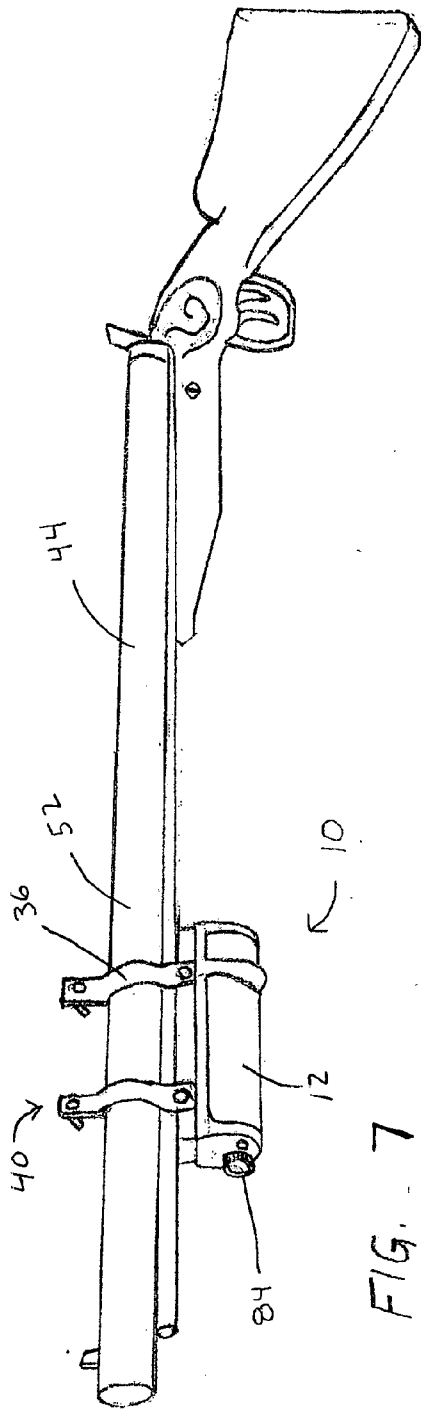
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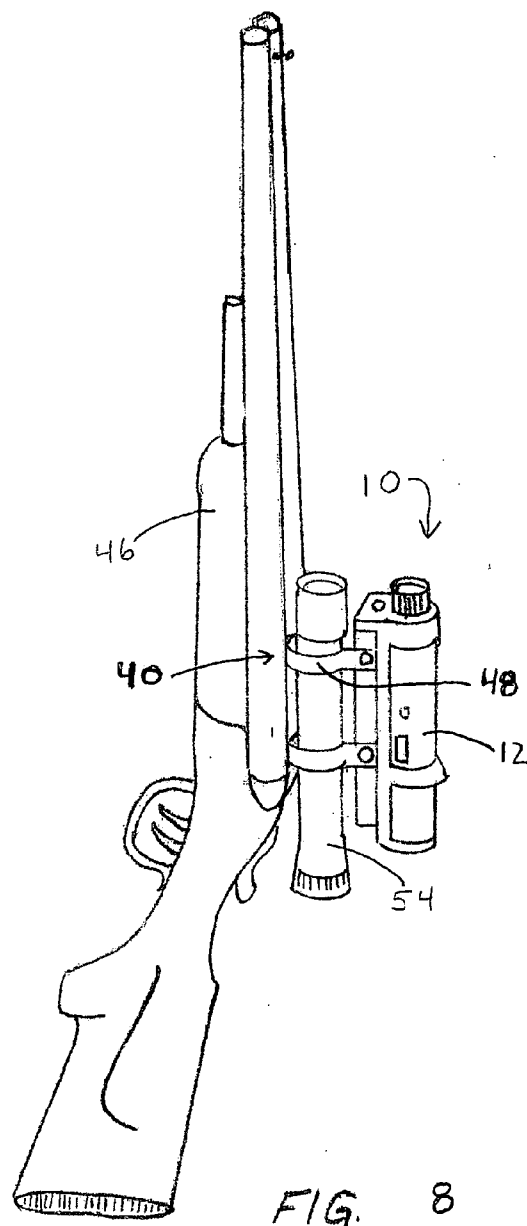
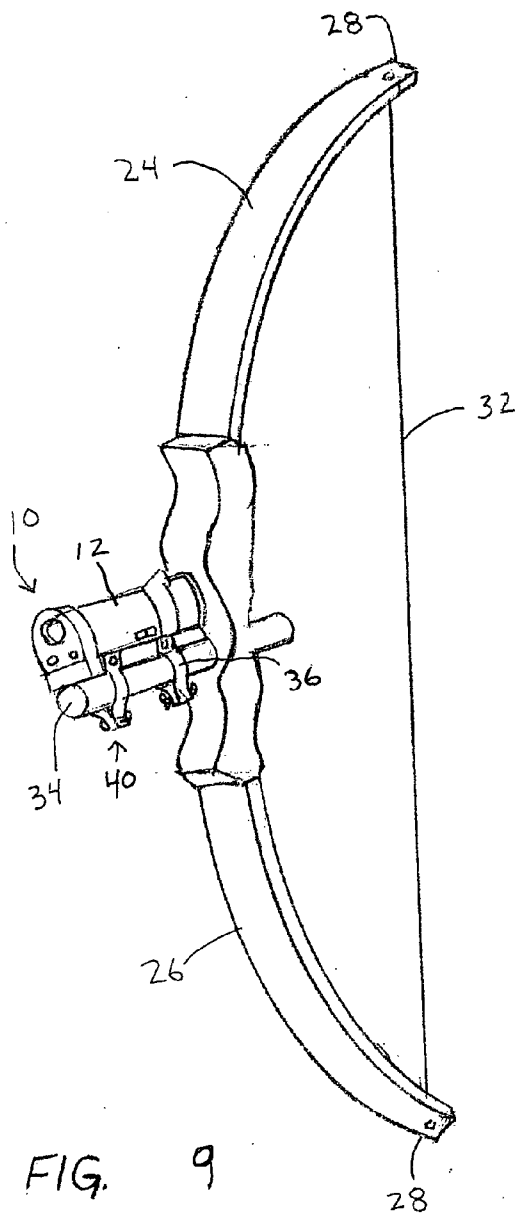
Related U.S. Application Data

(60) Provisional application No. 60/711,733, filed on Aug. 26, 2005.









RECORDING DEVICE THAT ATTACHES TO A WEAPON USED FOR SPORT

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is closely related to and claims benefit from U.S. Provisional Patent Application Ser. No. 60/711,733 filed on Aug. 26, 2005.

FIELD OF THE INVENTION

[0002] The present invention relates, in general, to recording devices used to record pre-selected events and, more particularly, the invention relates to a recording device that can be attached to a weapon used while hunting to record the hunt.

BACKGROUND OF THE INVENTION

[0003] Prior to the conception and development of the present invention, as is generally well known in the prior art, hunters have been seeking ways to record their hunting experiences.

[0004] One such way is taught in U.S. Pat. No. 6,792,206 wherein a telescopic firearm scope/sight is fully integrated with a compact digital camera used to photograph a target proximate the instant at which the target is fired upon. The weapon is configured for photography and firing. The scope is simply placed on the firearm in the same manner as a conventional scope, and the firearm is then fired in a conventional manner. Photographs are recorded either in response to the sound of, or the recoil from, the firearm firing. An alternative embodiment eliminates the telescopic sight, but maintains all of the digital photography components and is particularly useful for smaller scale firearms such as pistols.

[0005] Another way is taught in U.S. Pat. No. 6,679,158 wherein a powered aiming platform is provided for pointing devices such as firearms, illumination devices, or sensing instruments, remotely controlled by a hand-controller device, with video feedback of the aiming position and audio feedback of the exact direction and speed of positioning movements.

[0006] U.S. Pat. No. 6,556,245 discloses a video camera that can be mounted to a firearm or bow for recording game hunting. The camera has a quick release mount system that allows the video camera to slide on to and off of the weapon with ease. The camera has a liquid crystal display so the hunter can monitor what the camera is recording. A liquid crystal display housing member contains the liquid crystal display and acts as a lens cover when the camera is not recording. Moreover, when the liquid crystal display housing member is moved, from covering the lens, the camera starts recording automatically. The video camera also has seals that protect the camera's components from weather and other conditions likely to be encountered while game hunting.

[0007] U.S. Pat. No. 6,539,661 teaches an optical imaging device comprising an electro-optical recording device, such as a digital still camera, videotape recorder, etc., physically and optically connected to the scope sight of a firearm. The scope may be provided with a half silvered mirror at the eyepiece, which reflects a portion of the image passing

through the scope to the axially offset recording device. The user of the firearm and optical system may thus continue to view the image through the scope. Other embodiments provide a small, lightweight micro camera fitted to the scope eyepiece, with the camera receiving the image from the eyepiece and providing that image to the user through a rearward viewing screen. A switch may be provided to operate the system upon trigger actuation, or independently of the firearm trigger. The system is particularly valuable in sighting in a weapon, or harmlessly capturing an image of an animal.

[0008] Finally, U.S. Pat. No. 6,070,355 discloses a gun mounted video camera. The video camera is connected to the gun for accepting video images of a target of the gun.

[0009] However, none of the above noted prior art devices disclose a recording device mounted on various types of weapons used for hunting according to the present invention described in greater detail below.

SUMMARY OF THE INVENTION

[0010] The present invention provides an apparatus that attaches to a predetermined weapon for recording a pre-selected event. The apparatus includes a housing member having a predetermined size and a predetermined shape. A means is disposed in the housing member for recording such pre-selected event. A power source is disposed in the housing member and connected to the recording means for providing power thereto. An attachment device is used to secure the housing member to such predetermined weapon.

OBJECTS OF THE INVENTION

[0011] It is, therefore, one of the primary objects of the present invention to provide a recording device attachable to a weapon used to hunt that can record various images during the hunt.

[0012] Another object of the present invention is to provide a recording device that can be secured to many different types of weapons.

[0013] Still another object of the present invention is to provide a recording device attachable to a hunting weapon that is lightweight.

[0014] Yet another object of the present invention is to provide a recording device attachable to a hunting weapon that will not affect the hunter's ability to aim and fire the weapon.

[0015] A further object of the present invention is to provide a recording device attachable to a hunting weapon that is capable of downloading its recorded images of the hunt onto a computer.

[0016] A still further object of the present invention is to provide a recording device attachable to a hunting weapon wherein the recording device is protected from shock or recoil when the weapon is fired.

[0017] In addition to the above described objects and advantages of the present invention, various additional objects and advantages of the recording device attachable to a weapon according to the instant invention will become more readily apparent to those persons skilled in the relevant art from the following more detailed description, particu-

larly, when such description is taken in conjunction with the attached drawing figures and with the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 is a perspective view of a housing member of an apparatus according to the present invention;

[0019] FIG. 2 is a front view of the housing member of the apparatus, illustrated in FIG. 1, showing a lens, a laser sight and an integrated microphone according to certain embodiments of the present invention;

[0020] FIG. 3 is a rear view of the housing member of the apparatus, illustrated in FIG. 1, with a protective cover plate being removed, showing a display means, a memory card slot and a battery compartment according to certain embodiments of the present invention;

[0021] FIG. 4 is schematic illustration of a key pad used for activating the recording means and the laser sight according to a particular embodiment of the present invention;

[0022] FIG. 5 is an end view partially in cross section of a first type of clamp like member used to attach the housing member of the present invention;

[0023] FIG. 6 is an end view partially in cross section of a second type of clamp like member used to attach the housing member of the present invention;

[0024] FIG. 7 is a perspective view of a rifle having the housing member of the present invention attached thereto using the first type of clamp like member;

[0025] FIG. 8 is a perspective view of a shotgun with a scope having the housing member of the present invention attached to the scope using the second type of clamp like member; and

[0026] FIG. 9 is a perspective view of a bow having the housing member of the present invention attached to a stabilizing member secured to the bow.

DETAILED DESCRIPTION OF A PRESENTLY PREFERRED AND VARIOUS ALTERNATIVE EMBODIMENTS OF THE INVENTION

[0027] Prior to proceeding to the more detailed description of the present invention it should be noted that, for the sake of clarity in understanding the invention, identical components having identical functions have been identified with identical reference numerals throughout the several views illustrated in the drawings.

[0028] Now reference is made, more particularly, to the drawing FIGS. 1-9. Illustrated therein is an apparatus, generally designated 10, that attaches to a predetermined weapon for recording a pre-selected event. The apparatus 10 includes a housing member 12 having a predetermined size and a predetermined shape. There is a means, generally designated 20, disposed in the housing member 12 for recording the pre-selected event. The recording means 20, preferably, includes one of a camera and a camcorder.

[0029] The apparatus 10 includes a power source, generally designated 30, such as one of either a rechargeable battery source and a non-rechargeable battery source disposed in a back end portion 14 of the housing member 12.

The power source 30 is connected to the recording means 20 for providing power thereto. There is a means, generally designated 40, engageable with the housing member 12 for attaching such housing member 12 to the predetermined weapon.

[0030] The apparatus 10, in one embodiment, further includes a first cushioning layer 16, best seen in FIGS. 5 and 6, having a predetermined thickness disposed on an inner top surface 18 and inner side surfaces 19 of a bottom bracket 22 of the housing member 12. The first cushioning layer 16 protects the recording means 20 by reducing vibrations thereto from recoil of such predetermined weapon.

[0031] The predetermined weapon may be a bow 24, illustrated in FIG. 9, having a strip 26 of flexible material with two bent ends 28 and a cord 32 attached to the two bent ends 28. If the weapon chosen is bow 24, then the attachment means 40 will include a stabilizing member 34 secured to the strip 26 between the two bent ends 28 of such bow 24 and at least one clamp like member 36 engageable with the stabilizing member 34 and the bottom bracket 22 of housing member 12 for attaching housing member 12 to the bow 24.

[0032] The at least one clamp like member 36, shown in FIG. 5, will preferably include a second cushioning layer 38 having a predetermined thickness disposed on inner facing surfaces 42 of such at least one clamp like member 36. The second cushioning layer 38 protects the recording means 20 by reducing vibrations thereto from recoil of such bow 22.

[0033] As can be seen in FIG. 9, there are preferably two clamp like members 36 used to secure housing member 12 to the bow 24. Using two clamp like members 36 provides a more stable connection between the housing member 12 and the bow 24.

[0034] The predetermined weapon may be a firearm selected from a group consisting of a rifle 44 (shown in FIG. 7), a shotgun 46 (shown in FIG. 8), a handgun (not shown) and a paintball gun (not shown). If the weapon is rifle 44 then attachment means 40 will include at least one clamp like member 36 for engaging the bottom bracket 22 of the housing member 12 and a barrel 52 of the rifle 44 for attaching the housing member 12 thereto. If the weapon is shotgun 46 then attachment means 40 will include at least one U-shaped clamp like member 48 for engaging the bottom bracket 22 of the housing member 12 and a scope 54 of the shotgun 46 for attaching the housing member 12 thereto.

[0035] As can be seen in FIGS. 7 and 8, there are two clamp like members 36 and 48, respectively, preferably used to secure the housing member 12 to both the rifle 44 and the shotgun 46. Using two clamp like members 36 or 48 provides a more stable connection between the housing member 12 and either the rifle 44 or the shotgun 46.

[0036] The attachment means 40, preferably, is capable of being adjusted to allow for a variation in a predetermined flight path of a projectile being shot by any of the predetermined weapons discussed above.

[0037] The at least one U-shaped clamp like member 48, shown in FIG. 6, includes a third cushioning layer 56 having a predetermined thickness disposed on inner facing surfaces 58 of the at least one U-shaped clamp like member 48. The

third cushioning layer 56 protects the recording means 20 by reducing vibrations thereto from recoil of such firearm.

[0038] The apparatus 10, in another embodiment, further includes a slot 62 (FIG. 3) disposed in the back end portion 14 of the housing member 12 for inserting a memory card (not shown) therein. The memory card is capable of storing data of the pre-selected event recorded by the recording means 20.

[0039] In yet another embodiment, the apparatus 10 further includes a USB port 64 (FIG. 1) disposed in a predetermined side wall portion 66 of the housing member 12 for interfacing with a computer (not shown) to download such data stored on such memory card of such pre-selected event.

[0040] The apparatus 10, in still another embodiment, further includes a laser sight 68 (FIG. 2) disposed in a front end portion 72 of the housing member 12 for aiming the recording means 20.

[0041] The apparatus 10, in still yet another embodiment, further includes a push button control means, generally designated 50, (FIG. 4) for activating power to at least one of the recording means 20 and the laser sight 68. Push button control means 50, preferably, includes a keypad 74 wired 76 to a plug in port 78 (FIG. 1) disposed in the predetermined side wall portion 66 of the housing member 12. The keypad 74 is, preferably, mounted to the predetermined weapon using one of a hook and loop member and an adhesive backing. The keypad 74 could also be configured as a remote control device to activate a receiving chip disposed within the housing member 12 and work just as well.

[0042] In a further embodiment, The apparatus 10 will include a display means, generally designated 60, (FIG. 1) disposed on a top wall portion 82 of the housing member 12 between front end portion 72 and back end portion 14 thereof for indicating whether the recording means 20 is on/off, the laser sight 68 is on/off, the memory card is full and the battery power source is low.

[0043] The recording means 20 will, preferably, include a lens member 84 disposed in the front end portion 72 of the housing member 12 capable of rotating 1800 for focusing lens member 84.

[0044] The recording means 20 may have an integrated microphone 86 disposed in the front end portion 72 of the housing member 12 for recording audio transmissions of such pre-selected event.

[0045] While a presently preferred and various alternative embodiments of the present invention have been described in detail above it should be understood that various other embodiments of the invention can be envisioned by those persons skilled in the art without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. An apparatus that attaches to a predetermined weapon for recording a pre-selected event, said apparatus comprising:

- (a) a housing member having a predetermined size and a predetermined shape;
- (b) a means disposed in said housing member for recording such pre-selected event;

(c) a power source disposed in said housing member and connected to said recording means for providing power thereto; and

(d) a means engageable with said housing member for attaching said housing member to such predetermined weapon.

2. An apparatus, according to claim 1, wherein said recording means includes one of a camera and a camcorder.

3. An apparatus, according to claim 1, wherein said power source is one of a rechargeable battery source and a non-rechargeable battery source disposed in a back end portion of said housing member.

4. An apparatus, according to claim 1, wherein said apparatus further includes a first cushioning layer having a predetermined thickness disposed on an inner top surface and inner side surfaces of a bottom bracket of said housing member, said first cushioning layer for protecting said recording means by reducing vibrations thereto from recoil of such predetermined weapon.

5. An apparatus, according to claim 1, wherein such predetermined weapon is a bow having a strip of flexible material with two bent ends and a cord attached to such two bent ends.

6. An apparatus, according to claim 5, wherein said attachment means includes a stabilizing member secured to such strip of flexible material between such two bent ends of such bow and at least one clamp like member engageable with said stabilizing member and a bottom bracket of said housing member for attaching said housing member to such bow.

7. An apparatus, according to claim 6, wherein said attachment means is capable of being adjusted to allow for a variation in a predetermined flight path of an arrow being shot by such bow.

8. An apparatus, according to claim 6, wherein said at least one clamp like member includes a second cushioning layer having a predetermined thickness disposed on inner facing surfaces of said at least one clamp like member, said second cushioning layer for protecting said recording means by reducing vibrations thereto from recoil of such bow.

9. An apparatus, according to claim 1, wherein such predetermined weapon is a firearm selected from a group consisting of a rifle, a shotgun, a handgun and a paintball gun.

10. An apparatus, according to claim 9, wherein said attachment means includes at least one clamp like member engageable with a bottom bracket of said housing member and one of a scope and a barrel of such firearm for attaching said housing member to such firearm.

11. An apparatus, according to claim 10, wherein said attachment means is capable of being adjusted to allow for a variation in a predetermined flight path of a projectile being shot by such firearm.

12. An apparatus, according to claim 9, wherein said at least one clamp like member includes a third cushioning layer having a predetermined thickness disposed on inner facing surfaces of said at least one clamp like member, said third cushioning layer for protecting said recording means by reducing vibrations thereto from recoil of such firearm.

13. An apparatus, according to claim 1, wherein said apparatus further includes a slot disposed in a back end portion of said housing member for inserting a memory card therein, said memory card capable of storing data of such pre-selected event recorded by said recording means.

14. An apparatus, according to claim 13, wherein said apparatus further includes a USB port disposed in a predetermined side wall portion of said housing member for interfacing with a computer to download such data stored on such memory card of such pre-selected event.

15. An apparatus, according to claim 1, wherein said apparatus further includes a laser sight disposed in a front end portion of said housing member for aiming said recording means.

16. An apparatus, according to claim 15, wherein said apparatus further includes a push button control means for activating power to at least one of said recording means and said laser sight.

17. An apparatus, according to claim 16, wherein said push button control means includes a keypad wired to a plug in port disposed in a predetermined side wall portion of said housing member.

18. An apparatus, according to claim 1, wherein said apparatus further includes a display means disposed on a top wall portion of said housing member between a front end portion and a back end portion thereof for indicating whether at least one of said recording means is on, a laser sight is on, a memory storage card is low and power from said power source is low.

19. An apparatus, according to claim 1, wherein said recording means includes a lens member disposed in a front end portion of said housing member capable of rotating **1800** for focusing said lens member.

20. An apparatus, according to claim 1, wherein said recording means includes an integrated microphone disposed in a front end portion of said housing member for recording audio transmissions of such pre-selected event.

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