PROTECTIVE POD FOR ARCHERY ARROW COMPONENTS

Publication Classification

Int. Cl. F42B 39/00 (2006.01)
U.S. Cl. F42B 39/007 (2013.01)
CPC F42B 39/007 (2013.01)
USPC F42B 39/007 (2013.01)

ABSTRACT

This invention includes embodiments which disclose an attachable and removable protective pod or housing for protecting fletches on an archery arrow or providing protection for and from a broadhead on an arrow.
PROTECTIVE POD FOR ARCHERY ARROW COMPONENTS

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application claims priority from U.S. Provisional Application accorded Sep. No. 61/626,483, which was filed Sep. 27, 2011.

TECHNICAL FIELD

[0002] This invention generally relates to novel improved pods (capsules, housings) for protecting archery components against damage and/or for preventing archery components (broadhead arrows for example) from causing damage, preferably protecting fletches on arrows.

BACKGROUND OF THE INVENTION

[0003] The importance of protecting or shielding archery arrows from damage and from damaging other adjacent items has long been recognized. The sharp broadhead portions of arrows cause damage to other items in which they come in contact as well as protecting the fletch components on an arrow from being damaged.

[0004] An important embodiment of the present invention is a pod or housing for protecting the fletches of an archery arrow against damage while the arrow is being transported, stored, used in the field, etc. Damaged fletches are very undesirable because they cause erratic flight, which may lead to a wounded animal instead of a clean kill by a hunter, and because of the expense, time consumed, potentially lost shots, and aggravation appurtenant to stripping off and replacing the damaged fletch.

[0005] The invention will be disclosed by relating its principles to that application discussed in the preceding paragraph. This approach is not intended to be limiting as there are other important applications of the invention’s principles. For example, they may be embodied in pods designed to protect the sharp edges of arrow broad-heads against damage and/or to keep these edges from injuring person or causing other damage.

[0006] It is therefore an object of embodiments of this invention to provide a protective pod for preserving the desired form of the fletches on archery arrows and not deflecting or damaging them. In providing such a protective pod, it is a further object of this invention to provide such a pod which does not require that the fletches be slid into an interior cavity as that can cause damage to the fletch and negatively affect the performance of the fletch, the arrow and the archer.

[0007] It is also an object of embodiments of this invention to provide a protective pod which may be installed around the broadhead portion of the arrow to protect other items and objects from being damaged by the broadhead.

[0008] Disclosed herein are new and novel protective pods which do not have the drawbacks of prior art devices.

[0009] These novel fletch protectors have two cupulate (or concave) components connected by a hinge at one side of the device to form a clamshell-like configuration. The pod can accordingly be opened to expose its interior and for insertion of the fletches (or broadhead) of the arrow whatever the case may be.

[0010] The pod interior has longitudinally extending, transversely oriented recesses equaling in number and angular spacing the fletches on the arrow to be protected. With the arrow loaded into the pod, the fletches are suspended in these recesses free of contact with the clamshell by arrow shaft positioning features at forward and rear ends of the arrow shaft. The fletch-receiving recesses open onto the arrow-shaft-receiving middle of the shell component into which the arrow is loaded so there is no need to slide them into place; and the potential damage that procedure might cause is avoided.

[0011] Aside from the just discussed advantages, the novel pod disclosed herein is quickly and easily used and provides maximum protection. It is durable, lightweight, and compact and accommodates arrow shafts of different diameters and fletches having a variety of shapes and sizes.

[0012] Although an integral latch is shown and disclosed to provide a way to keep the pod or housing in a closed position, it will be appreciated by those of ordinary skill in the art that there may be other ways to secure or latch the housing components in a closed position for transport and/or protection.

[0013] While the invention was motivated in addressing some objectives, it is in no way so limited. Other objects, features, and advantages of this invention will appear from the specification, claims, and accompanying drawings which form a part hereof. In carrying out the objects of this invention, it is to be understood that its essential features are susceptible to change in design and structural arrangement, with only one practical and preferred embodiment being illustrated in the accompanying drawings, as required.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Preferred embodiments of the invention are described below with reference to the following accompanying drawings.

[0015] FIG. 1 is a perspective view of one example of an embodiment of a protective fletch pod contemplated by this invention mounted on an arrow with its fletches housed in the protected pod;

[0016] FIG. 2 is a perspective view of one example of an embodiment of a protective fletch pod by itself in a closed position;

[0017] FIG. 3 is a left-hand end view of the protective fletch pod illustrated in FIG. 1;

[0018] FIG. 4 is a right-hand end view of the protective fletch pod illustrated in FIG. 1;

[0019] FIG. 5 is a side view of the protective fletch pod illustrated in FIG. 1;

[0020] FIG. 6 is a latch side view of the protective fletch pod illustrated in FIG. 1;

[0021] FIG. 7 is a cross-sectional view 7-7 from FIG. 1;

[0022] FIG. 8 is a perspective view of the protective fletch pod and arrow illustrated in FIG. 1, only with the protective fletch pod hinged in an open position;

[0023] FIG. 9 is a perspective view of the protective fletch pod illustrated in FIG. 1, shown with the protective fletch pod hinged in an open position and without the arrow;

[0024] FIG. 10 is a left-hand end view of the protective fletch pod hinged in an open position; and

[0025] FIG. 11 is an elevation view of an example of an embodiment of the invention wherein a protective pod surrounds an archery arrow broadhead;

[0026] FIG. 11A is an elevation view of an example of an embodiment of the invention wherein a protective pod surrounds and protects an alternate archery arrow broadhead to that shown in FIG. 11;
FIG. 11B is an elevation cross-sectional view of an example of an embodiment of the invention wherein a protective pod 70 surrounds and protects an alternate archery arrow broadhead to that shown in FIGS. 11 and 11A; and FIG. 12 is a perspective cross-sectional view of the protective fletch pod illustrated in FIG. 1, shown with the protective fletch pod in an open position and without the arrow, only with latches for securing it together.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Many of the fastening, connection, manufacturing and other means and components utilized in this invention are widely known and used in the field of the invention described, and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art or science; therefore, they will not be discussed in significant detail. Furthermore, the various components shown or described herein for any specific application of this invention can be varied or altered as anticipated by this invention and the practice of a specific application or embodiment of any element may already be widely known or used in the art or by persons skilled in the art or science; therefore, each will not be discussed in significant detail.

The terms “a”, “an” and “the” as used in the claims herein are used in conformance with long-standing claim drafting practice and not in a limiting way. Unless specifically set forth herein, the terms “a”, “an” and “the” are not limited to one of such elements, but instead mean “at least one”.

It will be appreciated and is known by those of ordinary skill in the art that when the term pod is used herein, it is not limited to a housing that is fully enclosed, but instead is broader and may also refer to a structure or framework which placed around the fletches on an arrow will provide sufficient protection for said fletches. The pod or housing may therefore be a fully encasing protective housing, or instead a partially encasing protective housing, all within the contemplation of embodiments of this invention.

While it will be appreciated by those of ordinary skill in the art that embodiments of this invention shown are directed to a protective fletch pod shown directed at an arrow with three fletches mounted thereon, this invention also contemplates protective fletch pods or housings with any number of fletches thereon by adjustment to the cavity configuration, such as arrows on which four or five (or more) fletches have been mounted.

The drawing figures depict a protective fletch pod 20 for arrow fletches. This pod embodies and is constructed in accord with the principles of the present invention.

Protective fletch pod 20 has two complementary, concave shell components 22 and 24 which combine to form a protective, trilobal clamshell when the pod is closed (FIGS. 3, 4 and 7). In the example of the embodiment shown, the shell components are connected by a hinge 26 which extends longitudinally along one side of the pod (FIGS. 1, 2, 5 and 8-10). Latches 28 and 30 on the opposite side of the pod (FIGS. 1, 2, 6 and 8-10) keep the clamshell in a closed configuration unless the shell is deliberately opened.

As is best shown in FIG. 7, pod 20 has transversely oriented longitudinally extending cavities 32, 34 and 36 in which the fletches 38, 40 and 42 of an arrow 44 are housed when the arrow is loaded into the pod 20. The fletches are preferably suspended in a contact-free manner from the cavity walls by integral features 46 and 48 at the forward and rear ends 50 and 52 of pod 20 in which the shaft 54 of arrow 44 is snapped (FIGS. 3 and 4) to form positive connections between shaft 56 and pod 20. Features 46 and 48 position the shaft 54 of the arrow in concentricity with the axial centerline 56 of the pod (FIG. 7). This insures that fletches 38, 40 and 42 will remain in the contact-free relationship with the cavity walls shown in FIG. 7.

Pod 20 may be fabricated from any suitable, rigid or semi-rigid, transparent, translucent, or opaque material with a transparent material often being preferred as this allows one to observe the condition of the fletches in the pod. Polypropylene are a currently preferred material; however other polymers as well as (preferably lightweight) metals can instead be used.

FIG. 1 is a perspective view of one example of an embodiment of a protective fletch pod 20 contemplated by this invention mounted on an arrow 44 and 54 with its fletches housed in the housing body of the protective pod.

FIG. 2 is a perspective view of the example of the embodiment of the protective fletch pod 20 shown in FIG. 1, only by itself in a closed position without the arrow shown in FIG. 1. FIG. 2 shows the end portion 46, hinges 28 and 30 which interconnect the first shell component 24 and the second shell component 22.

FIG. 3 is a left-hand end view of the protective fletch pod 20 illustrated in FIGS. 1 & 2 above, showing the end portion 46, as well as the first shell component 24 and the second shell component 22.

FIG. 4 is a right-hand end view of the protective fletch pod 20 illustrated in FIGS. 1 & 2 above, showing the end portion 48, as well as the first shell component 24 and the second shell component 22.

FIG. 5 is a side view of the protective fletch pod illustrated in FIG. 1, and shows first shell component 24, second shell component 22, latches 28 and 30, and forward and rear end portions 50 and 52.

FIG. 6 is a side view of the protective fletch pod illustrated in FIG. 1, and shows first shell component 24, second shell component 22, latches 28 and 30, and forward and rear end portions 50 and 52.

FIG. 7 is a cross-sectional view 7-7 from FIG. 1, and shows first shell component 24, second shell component 22, interior cavities 32, 34 and 36 of the protective pod 20, arrow 56 and outer surface 54 of arrow 56 secured such that the fletches 38, 40 and 42 are contact-free of the shell components so as not to deflect the fletches 38, 40 and 42 housed and protected therein. It will be appreciated by those of ordinary skill in the art that while this configuration is shown with an interior cavity for each fletch, a specific configuration, shape or size of interior cavities is not required to practice embodiments of this invention.

FIG. 8 is a perspective view of the protective fletch pod and arrow illustrated in FIG. 1, only with the protective fletch pod 20 hinged in an open position. FIG. 9 shows first shell component 24, second shell component 22, hinge 26, latches 28 and 30, end portions 46 and 48, arrow 44 and outer surface 54 of arrow 44 secured in end portions 46 and 48 so as not to deflect the fletches 38 housed and protected therein.

FIG. 9 is a perspective view of the protective fletch pod 20 illustrated in FIG. 1, shown with the protective fletch pod hinged in an open position 22 and without the arrow. FIG. 9 illustrates first shell component 24, second shell component 22, hinge 26, latches 28 and end portions 46 and 48.
FIG. 10 is a left-hand end view of the protective fletch pod 20 hinged in an open position, FIG. 10 showing first shell component 24, second shell component 22, hinge 26, latch 28 and end portion 46.

FIG. 11 is an elevation view of an example of an embodiment of the invention wherein an opened protective pod 70 surrounds an archery arrow broadhead 72 illustrating the arrow 71, the broadhead 72 on the arrow 71, the protective broadhead pod 70 configured similar to the protective fletch pod shown in other figures herein, with like components having the same label. The complimentary portions, shell components or sections of the pod or housing may be hinged together as shown and closed together and secured together by a latch, by latches (77a and 77b), by snaps, friction fit (on the protective pod) or other fastening or securing mechanisms.

FIG. 11A is an elevation cross-sectional view of an example of an embodiment of the invention wherein a protective pod 70 surrounds and protects an alternate archery arrow 71 broadhead 73 to that shown in FIG. 11, illustrating how one protective pod shell configuration 75 may be configured to accept and protect more than one size and configuration of broadhead.

FIG. 11B is an elevation cross-sectional view of an example of an embodiment of the invention wherein a protective pod 70 surrounds and protects an alternate archery arrow 71 broadhead 74 to that shown in FIGS. 11 and 11B, illustrating how one protective pod shell configuration 75 may be configured to accept and protect more than one size and configuration of broadhead.

It should further be noted that while in the embodiment shown the first shell component and the second shell component are hingedly connected to one another, this invention may be practiced by having other interlocking mechanisms or fittings such that the first shell component and the second shell component may be snapped, latched or otherwise securely attached to and detached from one another, all within the contemplation of this invention. For example another embodiment may be at least one or more latches around a perimeter of the housing body to allow the attachment and detachment of the first shell component and second shell component, providing the same internal protection within the housing for the fletches or from the broadhead.

FIG. 12 is a perspective view of the protective fletch pod 20 illustrated in FIG. 1, shown with the protective fletch pod 22 in an open position and without the arrow. FIG. 12 shows an embodiment wherein the first shell component 24 is not hingedly connected to the second shell component 22, but instead two latches 28 are utilized to secure (attach and detach) the two shell components together.

It should further be noted that while the embodiments of the protective pod shown herein show the first shell component and the second shell component fully enclose the fletches on the arrow when the housing body is in a closed position, this invention also equally includes embodiment in which there is a less than complete enclosure (partial) that still provides the desired protection of the fletches or from the broadhead.

As will be appreciated by those of reasonable skill in the art, there are numerous embodiments to this invention, and variations of elements, components and combinations, which may be used, all within the scope of this invention.

One embodiment of this invention, for example, is a protective pod for an archery arrow comprising: a housing body with a first shell component and a second shell component, the first shell component and the second shell component being configured to combine to form a protective shell around fletches mounted on an archery arrow when the body is in a closed position; and the housing body further including at least one end portion configured to receive the shaft of an archery arrow and further configured to suspend the arrow with fletches within the housing body when the body is in a closed position without deflecting the fletches.

Further and additional embodiments from that disclosed in the preceding paragraph may include a protective pod: further wherein the at least one end portion is hinged and configured to receive the shaft of an archery arrow and further configured to suspend the fletches on the arrow contact-free from the housing when the body is in a closed position; further wherein the at least one end portion is two end portions which are configured in combination to receive the shaft of the archery arrow and to suspend the fletches on the arrow without deflecting the fletches when the body is in a closed position; further wherein the at least one end portion is two end portions which are configured in combination to receive the shaft of the archery arrow and to suspend the fletches on the arrow contact-free from the housing when the body is in a closed position further wherein the first shell component and the second shell component fully enclose the fletches on the arrow when the housing body is in a closed position; further wherein the first shell component and the second shell component are hingedly connected to one another; further wherein the first shell component and the second shell component are fastened to one another; further wherein the first shell component and the second shell component are fastened to one another by one or more fasteners; and/or further wherein the first shell component and the second shell component are connected to one another by one or more attaching and detaching means.

In another embodiment, a protective pod for an archery arrow may be provided which comprises: a housing body with a first shell component and a second shell component, the first shell component and the second shell component being configured to combine to form a protective shell around a broadhead mounted on an archery arrow when the housing body is in a closed position; and the housing body further including at least one end portion configured to receive the shaft of an archery arrow and further configured to suspend the arrow with the broadhead attached thereto within the housing body when the body is in a closed position.

Further and additional embodiments from that disclosed in the preceding paragraph may include a protective pod: further wherein the first shell component and the second shell component fully enclose the broadhead on the arrow when the housing body is in a closed position; further wherein the first shell component and the second shell component are hingedly connected to one another; further wherein the first shell component and the second shell component are fastened to one another; further wherein the first shell component and the second shell component are fastened to one another by one or more fasteners; and/or further wherein the first shell component and the second shell component are connected to one another by one or more attaching and detaching means.

In compliance with the statute, the invention has been described in language more or less specific as to structural and methodical features. It is to be understood, however, that the invention is not limited to the specific features shown and described, since the means herein disclosed comprise preferred forms of putting the invention into effect. The
invention is, therefore, claimed in any of its forms or modifications within the proper scope of the appended claims appropriately interpreted in accordance with the doctrine of equivalents.

The invention claimed is:

1. A protective pod for an archery arrow comprising:
   a housing body with a first shell component and a second shell component, the first shell component and the second shell component being configured to combine to form a protective shell around fletches mounted on an archery arrow when the body is in a closed position; and the housing body further including at least one end portion configured to receive the shaft of an archery arrow and further configured to suspend the arrow with fletches within the housing body when the body is in a closed position without deflecting the fletches.

2. A protective pod as recited in claim 1, and further wherein the at least one end portion configured to receive the shaft of an archery arrow and further configured to suspend the fletches on the arrow contact-free from the housing when the body is in a closed position.

3. A protective pod as recited in claim 1, and further wherein the at least one end portion is two end portions which are configured in combination to receive the shaft of the archery arrow and to suspend the fletches on the arrow without deflecting the fletches when the body is in a closed position.

4. A protective pod as recited in claim 1, and further wherein the at least one end portion is two end portions which are configured in combination to receive the shaft of the archery arrow and to suspend the fletches on the arrow contact-free from the housing when the body is in a closed position.

5. A protective pod as recited in claim 1, and further wherein the first shell component and the second shell component fully enclose the fletches on the arrow when the housing body is in a closed position.

6. A protective pod as recited in claim 1, and further wherein the first shell component and the second shell component are hingedly connected to one another.

7. A protective pod as recited in claim 1, and further wherein the first shell component and the second shell component are fastened to one another.

8. A protective pod as recited in claim 1, and further wherein the first shell component and the second shell component are fastened to one another by one or more fasteners.

9. A protective pod as recited in claim 1, and further wherein the first shell component and the second shell component are connected to one another by one or more attaching and detaching means.

10. A protective pod for an archery arrow comprising:
    a housing body with a first shell component and a second shell component, the first shell component and the second shell component being configured to combine to form a protective shell around a broadhead mounted on an archery arrow when the housing body is in a closed position; and the housing body further including at least one end portion configured to receive the shaft of an archery arrow and further configured to suspend the arrow with the broadhead attached thereto within the housing body when the body is in a closed position.

11. A protective pod as recited in claim 10, and further wherein the first shell component and the second shell component fully enclose the broadhead on the arrow when the housing body is in a closed position.

12. A protective pod as recited in claim 10, and further wherein the first shell component and the second shell component are hingedly connected to one another.

13. A protective pod as recited in claim 10, and further wherein the first shell component and the second shell component are fastened to one another.

14. A protective pod as recited in claim 10, and further wherein the first shell component and the second shell component are fastened to one another by one or more fasteners.

15. A protective pod as recited in claim 10, and further wherein the first shell component and the second shell component are connected to one another by one or more attaching and detaching means.

* * * * *