KEY FOB PROTECTOR

Inventor: Kevin A. Smith, Tucson, AZ (US)

Correspondence Address:
Mark E. Ogram
7454 E. Broadway # 203
Tucson, AZ 85710 (US)

Appl. No.: 11/124,573
Filed: May 5, 2005

Related U.S. Application Data
Provisional application No. 60/522,614, filed on Oct. 20, 2004.

ABSTRACT
A combination having an envelope of pliable material which encloses a remote control for a vehicle. The remote control apparatus has at least two activation buttons. The envelope of pliable material has a first opening across a first side of said envelope which allows the remote control to be inserted into the envelope and then sealed therein. A second opening on a second side of said envelope is provided. The keys associated with vehicle are secured to the remote control apparatus via the second opening of the envelope. In one embodiment of the invention, the envelope is equipped with a coating of light emitting material which highlights the buttons on the remote control apparatus.
KEY FOB PROTECTOR

[0001] Priority for this application is claimed from United States Provisional Patent application Ser. No. 60/522,614, filed on Oct. 20, 2004, and entitled, "Remote Vehicle Key Fob Protector".

BACKGROUND OF THE INVENTION

[0002] While the following discussion relates to remote controls used for vehicles (such as automobiles, boats, and airplanes), the discussion is not intended to be so limited but is intended to include all remote control apparatus used to perform a variety of operations, such as, but not limited to: garage door openers, lock/unlock controls for buildings, and remote controls for parking lot access.

[0003] Modern vehicles utilize remote controls for a variety of activities. These remote controls are often referred to as "fobs", taken from the term which was used to identify the ornamental attachments secured to watch chains. The remote controls are used to perform such functions as: lock/unlock the vehicle’s doors; activate alarms; activate/deactivate the horn; and to open doors or trunks.

[0004] The fobs are electronic in nature and are, by necessity, exposed to a variety of harmful environmental conditions such as rain and snow. Further, because the fobs are handled many times a day, they are exposed to natural wear caused by the repeated activation of the fob’s buttons and are also subject to damage when dropped.

[0005] All too often, the remote control fob must be replaced because it has been accidentally dropped or has been compromised by water or other liquids. Unfortunately, little has been done to provide protection for these expensive remote controls.

[0006] It is clear there is a need to adequately protect this electronic apparatus from environmental as well as physical damage.

SUMMARY OF THE INVENTION

[0007] The invention provides a combination having an envelope of pliable material enclosing a remote control. In the preferred embodiment, the envelope is made of plastic, although other embodiments, other types of materials are also used, including, but not limited to: leather; water-proof woven fabrics, canvas, and others which are obvious to those of ordinary skill in the art.

[0008] The envelope has a front face and an opposing back face. A first and a second edge are also provided by the envelope. The first edge is open to allow the remote control to be inserted into the envelope; this first opening is then sealed. Another opening exists on the second edge.

[0009] The remote control apparatus has at least two activation buttons. The remote control is electronic in nature and the activation buttons are used to emit a signal (such as radio waves or light based) which are received by the vehicle. These signals communicate what activity the vehicle is to perform (i.e. open the locks on the doors or sound the horn).

[0010] The remote control apparatus is the "fob".

[0011] The envelope of pliable material has a first opening across a first side of said envelope which allows the remote control to be inserted into the envelope. The envelope is snug but not too tight enclosure for the remote control. This "snug" fitting arrangement provides protection from physical damage to the remote control. Wear of the remote control's buttons is all but eliminated.

[0012] Further, the envelope provides a cushioning affect should the assembly be dropped. This cushioning affect is generated by the envelope’s own shape and the “snug” fit with the remote control so that a little “give” is experienced as the assembly impacts a surface.

[0013] The first opening is also provided with a sealing mechanism which ideally provides a water-tight seal when the seal is engaged. A variety of such seals are obvious to those of ordinary skill in the art including a variety of seals used in plastic bags and the like.

[0014] Those of ordinary skill in the art readily recognize a variety of techniques for sealing this opening, including, but not limited to that described in U.S. Pat. No. 6,877,808, entitled “Ease of Closure Through Tactile/Optical Means” issued on Apr. 12, 2005, to Berich, et al. and incorporated hereinto by reference.

[0015] When the envelope is sealed, optimal protection is afforded the remote control from the elements. Water is shed by the envelope, thereby preventing moisture from corrupting the electronics of the remote control.

[0016] A second opening on a second side of said envelope is provided. This second opening is not sealable which permits any trapped moisture within the envelope to vent. The second opening is not overly large to provide optimal protection for the fob while it is enclosed within the envelope.

[0017] This second opening also allows the keys associated with the vehicle to be secured to the remote control apparatus via said second opening of said envelope. In this manner, while the envelope encloses and protects the electronic remote control, the keys are available for use without undue effort on the part of the user.

[0018] In one embodiment of the invention, the envelope is equipped with a coating of light emitting material which highlights the buttons on the remote control apparatus. This permits the user to identify the location of the keys due to the "glow" from the coating.

[0019] Those of ordinary skill in the art readily recognize a variety of coating arrangements which can be used in this context, including, but not limited to U.S. Pat. No. 6,864,103, entitled "Phthalanide-Lanthanide Complexes for use as Luminescent Markers" issued to Raymon et al. on Mar. 8, 2005; and U.S. Pat. No. 6,867,243, entitled "Light Emitting Polymer" issued to O'Neill et al. on Mar. 15, 2005; both of which are incorporated hereinto by reference.

[0020] In one embodiment of the invention, the coating is applied on the envelope only over the keys; in another embodiment of the invention, the coating is applied to encircle the keys.

[0021] The invention, together with various embodiments thereof, will be more fully explained by the accompanying drawings and the following description thereof.

DRAWINGS IN BRIEF

[0022] FIGS. 1A, 1B, and 1C illustrate the preferred embodiment of the invention and its assembly.
FIG. 2 illustrates a variety of shapes available for the protective envelope.

FIG. 3 illustrates one embodiment of the fastener used in the preferred embodiment of the invention.

FIGS. 4A and 4B illustrate alternative embodiments wherein the keys for the remote control are highlighted by a coating of light emitting material on the envelope.

FIGS. 5A and 5B illustrate alternative embodiments in which a flashlight is incorporated into the assembly.

DRAWINGS IN DETAIL

FIGS. 1A, 1B, and 1C illustrate the preferred embodiment of the invention and its assembly. Referencing FIG. 1A, the three basic components for the assembly are: the remote control 10A, the envelope 11A, and the key 12A. Assembly of the combination involves placement of the remote control 10A within envelope 11A through opening 16A as shown by arrows 13A. This insertion of remote control 10A allows extension 15A to be accessible through opening 16B of envelope 11A.

Once so placed, as illustrated in FIG. 1B, opening 16A is sealed, as illustrated by FIG. 14, to enclose remote control 10B within envelope 11B. Extension 15B is exposed, allowing key 12B to be secured thereto.

This completes the assembly and is shown in FIG. 1C where remote control 10C is fully enclosed within envelope 11C with key 12 is secured to the remote control 10C.

In this manner, the assembly provides protection for the electronic remote control and yet leaves the keys available for easy use.

FIG. 2 illustrates a variety of shapes available for the protective envelope.

As illustrated in FIG. 2, the shape of the envelope is chosen to fit the particular needs of the remote control. The objective is to find a shape which provides a snug fit but is still loose enough to provide easy insertion of the remote control and provide a "shock absorption" affect should the assembly be dropped.

FIG. 3 illustrates one embodiment of the fastener used in the preferred embodiment of the invention.

In this embodiment, envelope 30 has an open end around which seal 32A and 32B is placed. Seal 32A and 32B are configured to engage one another as illustrated by arrow 33 when operator 31 provides as squeezing force.

In this manner, the opening is made water resistant and preferably is made water tight to protect the remote control (not shown) which is contained within envelope 30.

FIGS. 4A and 4B illustrate alternative embodiments wherein the keys for the remote control are highlighted by a coating of light emitting material on the envelope.

Referencing FIG. 4A, envelope 40A has placed upon it coatings 41A, 41B, and 41C. The locations are chosen for coatings 41A, 41B, and 41C to over-lay the buttons on the remote control when the remote control is enclosed within envelope 40A.

Coatings 41A, 41B, and 41C are light emitting materials which assist the user in locating the proper button on the remote control when the user is in a dim environment.

FIG. 4B also shows an arrangement in which coating 42 is placed on envelope 40B and is used to highlight all of the buttons on the remote control when the remote control is placed within envelope 40B.

FIGS. 5A and 5B illustrate alternative embodiments in which a flashlight is incorporated into the assembly.

Referencing FIG. 5A, envelope 50A is configured to hold remote control 54 as outlined above. In this embodiment, flashlight 51A is also contained within envelope 50A. While a flashlight is illustrated in this embodiment, the invention is intended to include any light emitting mechanism such as light emitting diodes and the such.

Activation of flashlight 51A is via switch 52A. This arrangement permits the user to activate flashlight 51A to provide illumination of an area of interest.

Envelope 50B of FIG. 5B shows the remote control being contained there in together with flashlight 51B secured to an exterior portion of envelope 50B via attachment 53. Button 52B is used to activate flashlight 51B.

It is clear the present invention provides for an efficient apparatus which protects the remote control and that this protection extends to both environmental as well as physical damage.

What is claimed is:

1. A remote control protection apparatus comprising:
   a) an envelope of pliable material having a first opening across a first side of said envelope and a second opening on a second side of said envelope; and,
   b) a closure mechanism positioned to close and seal said first opening.

2. The remote control protection apparatus according to claim 1, wherein said second opening is not sealable against water.

3. The remote control protection apparatus according to claim 2, wherein said closure mechanism forms a water resistant seal.

4. The remote control protection apparatus according to claim 3, wherein said closure mechanism is a water tight seal.

5. The remote control protection apparatus according to claim 3, wherein a first face of said envelope is substantially clear and wherein buttons said remote control are viewable through said first face.

6. The remote control protection apparatus according to claim 5, wherein a second face of said envelope is opaque.

7. The remote control protection apparatus according to claim 5, further including a coating on said first face, said coating emitting light in a dim environment.

8. The remote control protection apparatus according to claim 7.

   a) wherein said remote control has a at least two activation buttons thereon; and,
b) wherein said coating is positioned on said first face of said envelope such that when said remote control is contained within said envelope, a portion of said coating is associated with each of said at least two activation buttons.

9. The remote control protection apparatus according to claim 7,
   a) wherein said remote control has at least two activation buttons thereof; and,
   b) wherein said coating is positioned on said first face of said envelope such that when said remote control is contained within said envelope, said coating encircles said at least two buttons.

10. The remote control protection apparatus according to claim 3, further including a light emitting apparatus contained with said envelope.

11. The remote control protection apparatus according to claim 3, further including a light emitting apparatus secured to said envelope.

12. A combination comprising:
   a) an electronic control apparatus for a vehicle, said electronic control apparatus having at least two activation buttons; and,
   b) an envelope of pliable material containing said remote control apparatus and having,
      1) a first face and a second face,
      2) a first opening across a first side of said envelope, said first opening having a closure mechanism associated therewith, and,
      3) a second opening on a second side of said envelope.

13. The combination according to claim 12, wherein said first face of said envelope is substantially clear and wherein said activation buttons on said electronic control apparatus are viewable through said first face.

14. The combination according to claim 13, wherein said first face includes a coating for emitting light in a dim environment.

15. The combination according to claim 14, wherein said coating for emitting light in a dim environment is position in association with each of said at least one activation buttons of said electronic control apparatus.

16. A combination comprising:
   a) a remote control apparatus for a vehicle, said remote control apparatus having at least two activation buttons;
   b) an envelope of pliable material contains said remote control apparatus and having,
      1) a first face and a second face,
      2) a first opening across a first side of said envelope, said first opening having a closure mechanism associated therewith, and,
      3) a second opening on a second side of said envelope; and,
   c) at least one key associated with said vehicle, said at least one key being secured to said remote control apparatus via said second opening of said envelope.

17. The combination according to claim 16, wherein said closure mechanism forms a water resistant seal.

18. The combination according to claim 17,
   a) wherein a first face of said envelope is substantially clear and wherein buttons on said remote control apparatus are viewable through said first face, and wherein said first face of said envelope includes a coating for identifying a location of said at least two activation buttons; and,
   b) wherein a second face of said envelope is opaque.

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