Systems and methods for attaching or joining a personalization accessory to headphones, earphones, ear buds and listening devices that produce, enhance and/or cancel acoustics and go in, on, and/or over the ear.
EARPHONE/HEADPHONE/EAR BUD

CROSS-REFERENCE TO RELATED APPLICATIONS

0001 The present application claims the priority benefit of U.S. provisional patent application No. 61/523,153 filed Aug. 23, 2011 and titled “Earphone/Headphone/Ear Bud,” the disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

0002 1. Field of the Invention

0003 This invention generally relates to the hardware used to produce acoustics and typically is worn on the head and in or around the ear canal.

0004 2. Description of the Related Art

0005 The use of personal portable audio devices has increasingly become widespread due to developments in digital music storage and digital music players (e.g., iPods®). Music (and other audio) is generally considered a form of expression, whether it is the music that a user creates or the music that a user chooses to listen to. While users may express their unique personalities through the choice of music, the range of designs for devices and accessories used to listen to them has been limited.

0006 There is, therefore, a need in the art for improved systems and methods by which users can customize their audio listening devices.

SUMMARY OF THE INVENTION

0007 Embodiments of the present invention allow users to further personalize their audio listening product to represent their personality. Such personalization may be embodied in headphone/earphone/earbud units. Alternatively, pre-existing earphones, including custom-made earphones, may be retrofitted, so that users may add further personalization.

BRIEF DESCRIPTION OF THE DRAWINGS

0008 FIG. 1 is a side view of an earphone with a tunnel and an attachment feature.

0009 FIG. 2 is a side view of an earphone with a male-female connector.

0010 FIG. 3 is a side view of an earphone with a bulb connector.

0011 FIG. 4 is a side view of an earphone with a loop connector.

0012 FIG. 5 is a side view of an earphone with a clasp connector.

0013 FIG. 6 is a side view of an earphone with a hook.

0014 FIG. 7 is a side view of an earphone with a snap connector.

0015 FIG. 8 is a side view of an earphone with a polarized connector.

0016 FIG. 9 is a side view of an earphone with a tunnel and a personalization accessory.

0017 FIG. 10 is a side view of an earphone with an alternative male-female connector.

0018 FIG. 11 is a side view of a headphone with a tunnel.

0019 FIG. 12 is a side view of a headphone with a bulb connector.

0020 FIG. 13 is a side view of a headphone with a male-female connector.

0021 FIG. 14 is a side view of a headphone with a hook.

0022 FIG. 15 is a side view of a headphone with a polarized connector.

0023 FIG. 16 is a side view of a headphone with a snap connector.

0024 FIG. 17 is a side view of a headphone with a tunnel and a personalization accessory.

0025 FIG. 18 is a side view of a headphone with a clasp connector.

0026 FIG. 19 is a side view of a headphone with a loop connector.

0027 FIG. 20 is a side view of a headphone with a rotating connector.

0028 FIG. 21 is a side view of a headphone with an adhesive connector.

0029 FIG. 22 is a side view of a headphone with a plug attachment.

0030 FIG. 23 is a side view of a headphone with an alternative male-female connector.

0031 FIG. 24 is a side view of a headphone with a plug attachment.

0032 FIG. 25 is a side view of a headphone with a cavity and bar anchor.

0033 FIG. 26 is a side view of a headphone with a wire cavity attachment from 2 angles.

0034 FIG. 27 is a side view of a headphone that may be detachably secured via securing means to a detachable, customizable cover configured to allow an accessory to attach to the headphone.

0035 FIG. 28 is a side view of a headphone that may be detachably secured via securing means to an alternative detachable, customizable cover configured to allow an accessory to attach to the headphone.

0036 FIG. 29 is a side view of a headphone that may be detachably secured via threaded securing means to a detachable, customizable cover configured to allow an accessory to attach to the headphone.

0037 FIG. 30 is a side view of a headphone that may be detachably secured via threaded securing means to an alternative detachable, customizable cover configured to allow an accessory to attach to the headphone.

0038 FIG. 31 is a side view of a headphone that may be detachably secured via hinged securing means to an alternative detachable, customizable cover configured to allow an accessory to attach to the headphone.

0039 FIG. 32 is a side view of a headphone and an accessory that may be secured to the headphone via an adapter anchoring system.

0040 FIG. 33 is a side view of a headphone and an accessory that may be secured to the headphone via a detachable anchor having a rail system.

0041 FIG. 34 is a side view of an earbud and an accessory that may be secured to the headphone via a detachable anchor having a rail system.

DETAILED DESCRIPTION OF THE DRAWINGS

0042 Listening devices include headphones, earphone, ear buds, and any other personal listening device known in the art. Earphones and ear buds are typically configured to be secured in the ear canal, while the headphones are typically configured to rest on or over the ear. While the description may refer to one of the aforementioned listening devices, embodiments of the present invention may be applied to any headphones, earphone, and ear buds, etc. Specifically, an attachment feature allows for personalization of the listening
device. Personalization may include the addition of jewelry, art, chains, charms, jumpers, and other accessories.

0043 Some embodiments include a method for modifying a pre-existing listening device. Such methods may include creating a cavity or tunnel in the body of the listening device. The tunnel may be sagittal, transverse, coronal or combination of all three planes. An attachment feature (e.g., a loop) may be passed through the tunnel, thereby creating an anchor, bridge, or bar that will support but not be limited to supporting personalization accessories. Such attachments may include tunnels, posts, links, male-female connectors, bulb connectors, clasp connectors, hook connectors, snap connectors (e.g., ball & snap), polarized connectors, stud connectors, post connectors, plug connectors, metal eyelet connectors, interchangeable connectors, hybrid connectors, and other connection methods known in the art. The attachment feature may be any length, width, size, or color appropriate to the type of listening device. As noted above, attachment feature may also accommodate polarized materials with or without a cavity exposure for attachments, as well as accommodating threaded and screw on connectors.

0044 Attachment features may be anchored to the listening device by means other than a tunnel. Adhesives, for example, may be used to attach an attachment feature to the listening device. Any anchoring means known in the art may be used as to create a point of attachment for the attachment feature. Alternatively, the attachment feature may be built or retrofitted into the structure of the listening device. For example, a listening device may be modified so as to create or expose a loop or hook to serve as the attachment feature for securing personalization accessories. The attachment feature may be placed anywhere on the listening device (e.g., at the point of existing connections such as an earphone jack). In some embodiments, such attachment feature may allow for a daisy chain of materials to be attached.

0045 FIG. 1 illustrates an exemplary tunnel and attachment feature. The hole (or tunnel) 1A allows for connection of an attachment feature 1B (e.g., ring or any other objects). Accessories, which may be associated with corresponding attachment feature (e.g., openable ring or hook) may therefore be connected to the attachment feature 1B.

0046 FIG. 2 shows a male post 2A attaching to a female connector 2B. The male post 2A may be connected to the earphone via a cavity and/or adhesive. In FIG. 2, the male post 2A is illustrated as being threaded. While FIG. 2 illustrates the male post 2A being attached to the earphone, alternative embodiments may allow for a cavity (e.g., female connector 2B) to be formed in or in a piece attached to the earphone, allowing for male post 2A to be inserted (and/or screwed, threaded) into the cavity, such as that illustrated in FIG. 10. Similar to the attachment feature 1B illustrated in FIG. 1, the female connector 2B may be connected to an accessory with a corresponding attachment feature.

0047 FIG. 3 shows a male bulb connector 3A and a corresponding female connector 3B. In the embodiment illustrated in FIG. 3, the male bulb 3A may have been cast as part of the earphone body. Alternative embodiments for connect the male bulb 3A to the earphone may include using adhesive, creating a cavity shaped to connect to a corresponding shape on the male bulb 3A, etc. The female connector 3B may be associated with an attachment feature (not illustrated) that allows the female connector 3D to connect to one or more accessories. Such attachment feature may be cast, molded, or otherwise attached to female connector 3D.

0048 FIG. 4 illustrates a loop 4A cast as part of the earphone body. Additional embodiments may include loops that are injection molded, glued, or otherwise attached to the earbud. Associations with accessories may occur as described with respect to the foregoing figures.

0049 FIG. 5 shows a cavity 5A accommodating a clasp connector 5B. The clasp 5B will allow attachment of one or more personalization accessories.

0050 FIG. 6 illustrates a hook 6A cast as part of the earphone body.

0051 FIG. 7 shows a snap connection method that is similar to the bulb connector 3A of FIG. 3. Snap 7A may be attached or cast into the earphone and the connector 7B.

0052 FIG. 8 shows the use of a magnet or similar polarizable materials such as metal that polarized material can attract. Either one of 8A or 8B may be made of the magnet or polarizable material, while the other may be made of a metal attracted to the polarizable material.

0053 FIG. 9 illustrates a hole and/or tunnel 9A that allows the passing and securing of a post 9B that is already attached to a personalization accessory, in this case a flower shaped accessory.

0054 FIG. 10 illustrates the reverse of the male-female connector illustrated in FIG. 2. The female 10A is attached to the earphone. The male 10B is illustrated as being threaded.

0055 FIG. 11 illustrates a headphone with a tunnel 11A will allow for connection of an attachment feature.

0056 FIG. 12 shows a male bulb connector 12A cast into the mold of the headphone and corresponding female connector 12B.

0057 FIG. 13 shows a threaded male post 13A attaching to a female 13B.

0058 FIG. 14 illustrates a hook 14A cast as part of the headphone body.

0059 FIG. 15 illustrates the use of a magnet or similar polarizable materials such as metal that polarized material can attract. Either one of 15A or 15B may be made of the magnet or polarizable material, while the other may be made of a metal attracted to the polarizable material.

0060 FIG. 16 shows the snap connection method that is similar to the bulb connector 3A of FIG. 3. The snap 16A is attached or cast as part of the headphone body and the corresponding snap connector 16B.

0061 FIG. 17 illustrates a hole 17A and/or tunnel 17A that allows the passing and securing of a post 17B attached to a flower-shaped personalization accessory.

0062 FIG. 18 illustrates cavity 18A accommodating a corresponding clasp connector 18B. The clasp 18B allows for attachment of other components, such as personalization accessories.

0063 FIG. 19 illustrates loop 19A cast as part of the headphone body.

0064 FIG. 20 shows hole 20A accommodating a rotating connector 20A.

0065 FIG. 21 shows an adhesive patch 21A to which attachment feature 21B is attached.

0066 FIG. 22 shows a plug 22A securing a personalization accessory 22B (e.g., star charm) with the use of a ring.

0067 FIG. 23 illustrates the reverse of the male-female connector illustrated in FIG. 13. The female 23A is attached to the headphone, while the corresponding male post 23B is threaded for secure attachment.

0068 FIG. 24 shows a headphone jack 24A onto which a personalization accessory 24B attached to a ring is placed.
Headphone jack 243B may then be attached to corresponding female headphone jack receptacle 24A. FIG. 25 shows a cavity 25A with a bar anchor 25B. Charn 25C is attached using a string.

FIG. 26 shows the side view and profile view of headphones that attach to the headband 26A going through headphones. The method creates a loop 263B at that allows the attachment of accessories. This would be similar to the loop of FIG. 19.

FIG. 27 is a side view of a headphone that may be detachably secured via securing means 27D to a detachable, customizable cover 27A configured to allow an accessory 27C to attach to a corresponding anchoring portion 27B of the headphone. Cover 27A may be customized in terms of color(s) and shape. Any type of design element (e.g., decals, logos, embossing) known in the art may be displayed on a surface of the cover 27A. Means 27D used to secure cover 27A to the headphone may include magnets, snaps, magnetic snaps, and any other suitable securing means known in the art for attaching a cover to a headphone. The cover 27A may also act to secure the accessory 27C to be anchored to an anchoring portion 27B on the headphone. The accessory 27C may include an anchoring component that may allow for use with standard earring components. While anchoring components may vary in design, an exemplary anchoring component maintains the position of the accessory 27C in relation to the headphone. Standard earring components may include any and all earring-like accessories not limited to what is normally worn on a user’s ears. Such an anchoring system may enhance the ability of the consumer to customize the headphones.

FIG. 28 is a side view of a headphone that may be detachably secured via securing means 28D to an alternative detachable, customizable cover 28A configured to allow an accessory 28C to attach to a corresponding anchoring portion 28B of the headphone. Similar to the cover 27A illustrated in FIG. 27, cover 28A may be customized with various colors, designs, shapes, etc.

FIG. 29 is a side view of a headphone that may be detachably secured via threaded securing means 29D to a detachable, customizable cover 29A configured to allow an accessory 29C to attach to a corresponding anchoring portion 29B of the headphone. The threaded securing means 29D may additionally include ribbing or other means of creating friction with cover 29A (which may also have similar or corresponding threading or other feature that enhances friction). Such friction should be such that would allow for releasable attachment. Such threaded securing means 29D may allow for attachment with cover 29A via twisting, screwing, pressing, pop-off, and other means of attachment involving friction.

FIG. 30 is a side view of a headphone that may be detachably secured via threaded securing means 30D to an alternative detachable, customizable cover 30A configured to allow an accessory 30C to attach to a corresponding anchoring portion 30B of the headphone. The attachment relationship between threaded securing means 30D and corresponding cover 30A may be similar to that between securing means 29D and cover 29A described with respect to FIG. 29.

FIG. 31 is a side view of a headphone that may be detachably secured via hinged securing means 31D to an alternative detachable, customizable cover 31A configured to allow an accessory 31C to attach to a corresponding anchoring portion 31B of the headphone. While the hinged securing means 31D is illustrated as opening and closing along one axis, various type of hinges may be possible that allow for different types of opening and closing (e.g., pivoting, rotating).

FIG. 32 is a side view of a headphone and an accessory that may be secured to the headphone via an adapter anchoring system (32A-C collectively). An exemplary anchor 32C, which may vary in design, may be associated with an accessory (and attachment earring feature 32B) and may be inserted into a corresponding opening 32A on the headphone. The opening 32A and corresponding anchor 32C may vary in size, position or location relative to the headphone. As can be seen from the illustrated use with earring-like accessories, the anchoring system may be compatible with a variety with earrings currently on the market.

FIG. 33 is a side view of a headphone and an accessory that may be secured to the headphone via a detachable anchor having a rail system (33A and 33B collectively). While the illustrated embodiment shows a rail 33B associated with the anchor and accessory and a corresponding opening 33A on the headphone, the positions may also be reversed.

FIG. 34 is a side view of an ear bud and an accessory that may be secured to the headphone via a detachable anchor having a rail system (34A and 34B collectively).

While various embodiments have been described above, it should be understood that they have been presented by way of example only, and not limitation. The descriptions are not intended to limit the scope of the invention to the particular forms set forth herein. Thus, the breadth and scope of a preferred embodiment should not be limited by any of the above-described exemplary embodiments. It should be understood that the above description is illustrative and not restrictive. To the contrary, the present descriptions are intended to cover such alternatives, modifications, and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims and otherwise appreciated by one of ordinary skill in the art. The scope of the invention should, therefore, be determined not with reference to the above description, but instead should be determined with reference to the appended claims along with their full scope of equivalents.

What is claimed is:

1. A method for modifying a listening device, the method comprising:
   creating a point of anchor on the listening device, wherein the point of anchor allows for an attachment feature to be connected to the listening device; and
   connecting the attachment feature to the listening device at the point of anchor; the attachment feature configured to further connect to a personalization accessory selected by a user.

2. The method of claim 1, wherein creating the point of anchor includes creating a tunnel through a portion of the listening device.

3. The method of claim 2, wherein connecting the attachment feature to the listening device includes passing a portion of the attachment feature through the tunnel.

4. The method of claim 1, wherein creating the point of anchor includes creating a cavity in a portion of the listening device.

5. The method of claim 4, wherein a portion of the attachment feature is configured to attach to the cavity and wherein
connecting the attachment feature to the listening device includes attaching the portion of the attachment feature to the cavity.

6. The method of claim 1, wherein creating the point of anchor includes applying an adhesive.

7. The method of claim 1, wherein creating the point of anchor includes applying a polarized material to the listening device.

8. The method of claim 1, wherein the attachment feature is selected from the group consisting of a loop, a male-female connector, a bulb connector, a clasp, a hook, a snap, a magnet, a plug, a tunnel, a bar anchor, and a rail.

9. The method of claim 1, further comprising fitting a cover to the headphone, wherein the cover is configured to attach and detach from the headphone.

10. The method of claim 9, wherein the cover includes a customizable design.

11. The method of claim 9, wherein the cover is configured to allow for display of the personalization accessory.

12. The method of claim 9, wherein the cover is attached to the headphone using a connection selection from the group consisting of magnets, snaps, threading, and hinges.