EAR PIERCING EARRINGS STUD

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ABSTRACT
An ear piercing stud includes a post including a sharpened first end and a second end and a setting portion including a base secured to the second end of the post and a plurality of prongs configured to retain a stone in the setting portion. The prongs have a substantially constant thickness along length and width dimensions thereof. The base has a substantially same thickness as the plurality of prongs. The plurality of prongs are bent into a configuration having two side portions coupled together at an angle. Ridge-like strengthening structures run in a lengthwise direction along a central portion of each of the plurality of prongs. The setting portion is formed of a heat treatable gold alloy that increases in strength upon heat treatment.
EAR PIERCING EARRINGS STUD

RELATED APPLICATIONS

[0001] This application claims the benefit under 35 U.S.C. §119(e) to U.S. provisional patent application Ser. No. 62/148,932, entitled EAR PIERCING EARRING STUD, filed on Apr. 17, 2015, which is hereby incorporated by reference in its entirety.

BACKGROUND

[0002] 1. Field of Disclosure
[0003] Aspects and embodiments of the present disclosure are directed generally to apparatus and methods for piercing portions of the body of a subject, for example, for piercing the ears of a subject.
[0004] 2. Discussion of Related Art
[0005] Persons who desire to adorn themselves with body jewelry, for example, earrings, nose rings, navel jewelry, or body jewelry in other portions of the body often have the desired area of the body pierced to provide an aperture through which a portion of the body jewelry may be passed to secure the body jewelry to the body. One method of piercing earlobes involves passing a post of a piercing earring or piercing stud through the earlobe with a piercing “gun” so that the post extends outward from a rear side of the earlobe while a setting portion of the earring remains on the front of the earlobe. The piercing stud may be retained in the earlobe with a clutch that engages a notch or a threaded portion on the post of the piercing stud. The piercing stud is often left in place for a period of weeks to allow the piercing to heal without closing.

SUMMARY

[0006] In accordance with an aspect of the present disclosure, there is provided an ear piercing stud. The ear piercing stud includes a post including a sharpened first end and a second end and a setting portion including a base secured to the second end of the post and a plurality of prongs configured to retain a stone in the setting portion.
[0007] The prongs have a substantially constant thickness along length and width dimensions thereof. The base has a substantially same thickness as the plurality of prongs. The plurality of prongs are bent into a configuration having two side portions coupled together at an angle. Ridge-like strengthening structures run in a lengthwise direction along a central portion of each of the plurality of prongs. The setting portion is formed of a heat treatable gold alloy that increases in strength upon heat treatment.
[0008] In one embodiment, the plurality of prongs are approximately 0.008 inches in thickness. In another embodiment, the ear piercing stud is adapted to be inserted in an ear piercing gun. In yet another embodiment, the plurality of prongs each include a radius that runs perpendicular to a force applied to the stone during an ear piercing process. In another embodiment, the setting portion includes a base, and wherein the plurality of prongs substantially direct an applied force to a center of the base of the setting portion which transfers the applied force to the center of the post.

BRIEF DESCRIPTION OF DRAWINGS

[0009] The accompanying drawings are not intended to be drawn to scale. In the drawings, each identical or nearly identical component that is illustrated in various figures is represented by a like numeral. For purposes of clarity, not every component may be labeled in every drawing. In the drawings:

[0010] FIG. 1 is an elevation al view of a prior art ear piercing stud;
[0011] FIG. 2 is an elevation al view of an embodiment of an ear piercing stud in accordance with an embodiment of the present invention;
[0012] FIG. 3 is a photograph of an embodiment of an ear piercing stud in accordance with an embodiment of the present invention from the side;
[0013] FIG. 4 is another photograph of an embodiment of an ear piercing stud in accordance with an embodiment of the present invention from the side;
[0014] FIG. 5 is a photograph of a setting portion of an embodiment of an ear piercing stud in accordance with an embodiment of the present invention; and
[0015] FIG. 6 is a photograph of an embodiment of an ear piercing stud in accordance with an embodiment of the present invention mounted in an ear piercing gun.

DETAILED DESCRIPTION

[0016] Aspects and embodiments disclosed herein are not limited to the details of construction and the arrangement of components set forth in the following description or illustrated in the drawings. Aspects and embodiments disclosed herein are capable of other embodiments and of being practiced or of being carried out in various ways.

[0017] Aspects and embodiments disclosed herein are generally directed to apparatus and processes for piercing earlobes or other body parts of a subject. The subject may be a human subject, although aspects and embodiments disclosed herein may also be suitable for use with non-human subjects.

[0018] An example of a prior art ear piercing stud is illustrated in FIG. 1, generally at 100. The piercing stud 100 includes a post 105 and a setting portion 110. The post 105 includes a sharpened first end 115 and a second end 120 secured to a base 125 of the setting portion 110. A notch 130, configured to retain a clutch (not shown), is formed circumscribing the post 105 proximate the sharpened first end 115. The setting portion 110 includes a plurality of prongs 135, for example, four prongs 135 that are used to secure a stone or jewel 140 in the setting portion 110. The piercing stud 100 may be formed of a metal, for example, gold or stainless steel or another material that will not cause an infection in the ear of a subject. The jewel 140 may be a natural or synthetic precious stone, for example, a diamond or ruby, or may be zirconia, colored or uncolored glass, or even plastic.

[0019] The prongs 135 vary in thickness along their length and differ in thickness from the base 125 of the setting portion 110. The thickness and dimensions of the setting portion 110 require the setting portion to be formed of a soft material, for example, 14K gold so that the setting portion 110 may be formed into the desired shape with conventional metal forming equipment.

[0020] An example of an improved piercing stud in accordance with an embodiment of the present invention is illustrated in FIG. 2, generally at 200. The piercing stud 200 includes a post 205 and a setting portion 210. The post 205 includes a sharpened first end 215 and a second end 220 secured to a base 225 of the setting portion 210, for example, by soldering or braze. A notch 230, configured to retain a clutch (not shown), is formed circumscribing the post 205.
proximate the sharpened first end 215. The setting portion 210 includes a plurality of prongs 235, for example, four prongs 235 that are used to secure a stone or jewel 240 in the setting portion 210. The piercing stud 200 may be formed of a metal, for example, gold or stainless steel or another material that will not cause an infection in the ear or a subject. In some embodiements, the metal is a heat treatable gold alloy that exhibits a harness or stiffness of about 50% or greater above that of a non-heat treated gold alloy having a comparable gold content. The jewel 240 may be a natural or synthetic precious stone, for example, a diamond or ruby, or may be zirconia, colored or uncolored glass, or even plastic.

[0021] The prongs 235 of the piercing stud 200 have a thickness that is substantially the same along their lengths and widths and that is substantially the same as the thickness of the base 225 of the setting portion. As used herein, the length dimension of the prongs 235 is a direction extending toward or away from the base 225. The prongs 235 of the piercing stud 200 are substantially thinner than the prongs 135 of the piercing stud 100. In one embodiment, the prongs 235 of the piercing stud 200 may be about 0.008 inches thick while a comparably sized piercing stud 100 may be formed from 0.014 inch thick flat stock. The reduced thickness of the prongs 235 of the piercing stud 200 as compared to the prongs 135 of the piercing stud 100 provide for the setting portion 210 of the piercing stud 200 to be formed of a harder or stiffer alloy than the setting portion 110 of the piercing stud 100 while still being able to be formed into a desired final shape using conventional forming equipment. The setting portion 210 of the piercing stud 200 may be formed of a heat treatable gold alloy that may be heat treated prior or after formation into a desired shape and/or before or after being secured to the second end 220 of the post 205. This heat treatment provides the material of the setting portion 210 with a mechanical strength or stiffness significantly greater, for example, about 50% greater or more, than an alloy having a comparable gold content such as might be used to form the setting portion 110 of the piercing stud 100.

[0022] The prongs 235 of the piercing stud 200 include lower portions below an area 250 of contact with the jewel 240 that are folded to form two side portions joined at an angle, for example, an obtuse angle, as illustrated in FIG. 3 and FIG. 5. The folding of the lower portions of the prongs 235 results in a ridge-like structure 245 being formed in a central area of the prongs 235 and running along the length of the lower portions of the prongs 235. The ridge-like structure 245 increases the strength and rigidity of the prongs 235.

[0023] The rigid base and prong design of embodiments of the piercing stud 200 incorporate a radius in each prong 235 in an area 250 that runs perpendicular to the force applied to the jewel 240 during the ear piercing process. The rigid prongs 235 direct all of the force to the center of the base 225 of the setting portion 210 which ultimately transfers the force to the center of the piercing post 205.

[0024] As a result of the geometry of the setting portion 210, the setting portion may be formed using a stronger material than the setting portion 110 of the piercing stud 100, and with less material than the setting portion 110 of the piercing stud 100, while exhibiting sufficient strength to be reliably utilized with conventional piercing guns or other traditional delivery mechanisms for piercing earlobes or other portions of a subject’s body. For example, in one embodiment, a piercing stud 100 may weigh about 0.115 grams when formed from 14K gold, while a comparably sized piercing stud 200 also formed of a 14K gold alloy and having a post 205 of the same thickness as the post 105 of the piercing stud 100 and configured to retain a same sized jewel 240 as the piercing stud 100 may weigh about 0.073 grams. The piercing stud 200 thus provides for a weight savings of about 36% as compared to a comparably sized piercing stud 100. The reduced amount of material used to produce the piercing stud 200 as compared to the piercing stud 100 may result in significant cost savings when the piercing stud 200 is formed from a precious metal such as gold.

[0025] A further advantage of the piercing stud 200 over the piercing stud 100 is that the relatively thin prongs 235 of the piercing stud 200 and the geometry of the prongs 235 provide for a low profile setting which follows the shape of the jewel 140 and minimizes vacant areas within the setting area 210 after setting the jewel 240 in the piercing stud 200.

[0026] As illustrated in FIG. 6, embodiments of the piercing stud 200 may be used with traditional delivery mechanisms for piercing earlobes or other portions of a subject’s body, for example, piercing gun 300.

What is claimed is:

1. An ear piercing stud comprising:
   a post including a sharpened first end and a second end; and
   a setting portion including a base secured to the second end of the post and a plurality of prongs configured to retain a stone in the setting portion, the prongs having a substantially constant thickness along length and width dimensions thereof, the base having a substantially same thickness as the plurality of prongs, the plurality of prongs bent into a configuration having two side portions coupled together at an angle, ridge-like strengthening structures running in a lengthwise direction along a central portion of each of the plurality of prongs, the setting portion formed of a heat treatable gold alloy that increases in strength upon heat treatment.

2. The ear piercing stud according to claim 1, wherein the plurality of prongs are approximately 0.008 inches in thickness.

3. The ear piercing stud according to claim 1, wherein the ear piercing stud is adapted to be inserted in an ear piercing gun.

4. The ear piercing stud according to claim 1, wherein the plurality of prongs each include a radius that runs perpendicular to a force applied to the stone during an ear piercing process.

5. The ear piercing stud according to claim 1, wherein the setting portion includes a base, and wherein the plurality of prongs substantially direct an applied force to a center of the base of the setting portion which transfers the applied force to the center of the post.