A clutch mechanism for securing a jewelry piece, such as a pierced earring, to a support member. The jewelry piece includes an elongated pin, and the clutch mechanism is slidably mounted on the pin in such a manner that it can readily be separated from the pin. The clutch mechanism includes a gripper portion for facilitating easy handling of the clutch, and it includes a flexible insert for frictionally gripping the pin.

6 Claims, 4 Drawing Figures
CLUTCH MECHANISM FOR JEWELRY PIN

The present invention relates to jewelry, and more specifically to an improved clutch mechanism for releasably gripping the pin portion of a jewelry piece, such as an earring for use with pierced ears.

Various types of clutch or gripping mechanisms are known in the jewelry art for attaching a piece of jewelry to a support member, such as a pierced earring to a wearer's ear lobe. Such mechanisms generally include a mechanical construction designed to engage a portion of the jewelry piece in such a manner that it can readily be detached from the support member. Tie tabs for example, are often secured to a necklace by various well known, spring containing, all metal gripper mechanisms. Earrings for pierced ears have also been designed which include spring constructions for securing the earring to a wearer's ear.

It has been found that an earring for use with pierced ears can be quite difficult to attach to the ear lobe of a wearer, especially if the wearer is not particularly adept at handling such earrings. There are a number of reasons for this. For one thing, the earring itself, is often quite small, and it is generally preferred that the clutch mechanism be as small and inconspicuous as possible. Moreover, the clutch mechanism is positioned behind the ear lobe, a place which is difficult to see, and certainly in an area where it is awkward for many people to manipulate a clutch mechanism of any type. In addition, quite often the wearer must attach or remove the earring without the benefit of a mirror; this is an awkward and cumbersome task for many people. Furthermore, for security reasons, the clutch mechanism must be of such a type that it will not become accidentally disengaged so that the earring might be lost; thus, the clutch mechanism must be completely reliable as to its gripping capabilities. Durability is another consideration, because it has been found that clutch mechanisms which include movable parts are quite often subject to breaking after repeated use, or perhaps due to careless manipulation or misuse of the mechanism.

While varied attempts have been made to design jewelry items, and especially pierced earrings of this type, so as to improve their versatility, reliability, and durability, to the best of applicant's knowledge no completely satisfactory clutch mechanism has been devised which overcomes the disadvantages and shortcomings which exist in the known prior art clutch mechanisms.

Accordingly, one object of the present invention is to provide an improved clutch mechanism for use with jewelry pieces.

Another object is to provide an improved clutch mechanism for releasably securing a pierced earring to a wearer's ear lobe.

A further object is to devise a clutch mechanism which includes no movable parts which might be subject to wearing out, or damage due to prolonged use, or misuse.

A still further object is to provide a clutch mechanism for use with pierced earrings which is simple and durable in construction and assembly, which is inconspicuous and yet attractive in appearance, which is easy to use, and which is inexpensive to fabricate.

Other objects and advantages of the invention will become apparent from a consideration of the following specification and accompanying drawings. Before proceeding with a detailed description of the invention however, a brief description of it will be presented.

In general, the invention comprises a clutch mechanism which includes a housing having somewhat flexible and resilient insert positioned therein so that it is enclosed or surrounded by the housing. The housing is designed in such a manner that one of its ends forms a gripper end so that the mechanism can readily be grasped by a user. The plastic insert is provided with a passage therethrough, and at least one of the ends, and preferably both ends, is provided with a bore which is aligned with respect to the passage to form a channel in the clutch mechanism. A jewelry piece, having an elongated pin with a slightly larger cross-sectional size than the passage in the insert, is releasably gripped by the clutch mechanism, by inserting the pin into the channel.

The invention will best be understood by reference to the following drawings wherein:

FIG. 1 is a perspective view which illustrates a clutch mechanism releasably secured to a jewelry piece, such as a pierced earring;

FIG. 2 is a front elevational view of the mechanism depicted in FIG. 1;

FIG. 3 is a sectional view taken along line 3--3 of FIG. 2; and

FIG. 4 is a sectional view taken along line 4--4 of FIG. 3.

The figures, and especially FIG. 1, illustrate a clutch mechanism designated generally by numeral 10, when used in combination with a piece of jewelry such as a pierced earring, designated by numeral 12. While the invention is particularly well adapted for use with a pierced earring and will be described in conjunction with a pierced earring, it should be realized that it might also be used as a fastener for other types of jewelry pieces as well, such as tie tacks, lapel buttons, and the like. As shown in FIG. 2, the pierced earring 12 includes an ornamental member 14, and an elongated pin 16, secured at one end to the member 14 so that its other end extends or projects away from the member 14.

The clutch mechanism 10 includes a housing 18 having a first or gripper end 20 which is substantially covered or enclosed, and which forms an integral part of the housing, and a second or abutment end 22 which is open and which has an integral flange 24 forming a part thereof which surrounds the open end, note FIG. 3. The housing is formed as having a main body portion 26 and a gripper portion 28 formed by means of a gradually tapered groove or indentation 30 which surrounds the housing proximate the gripper end 20. Thus, the housing is effectively separated into the gripper portion 28 and the substantially larger main body portion 26, by the indentation 30. Furthermore, as shown in the drawings, the housing 18 has a substantially circular cross-sectional shape, which varies in size at different points along its longitudinal axis. A bore 32, which is slightly larger than the size of the pin 16, is formed in the gripper end 20.

A somewhat flexible or resilient insert 34, preferably formed of a thermoplastic material such as polyethylene, is positioned within the main portion of the housing 18. The insert is provided with an elon-
gated passage 36 which extends from a first end 38 to a second end 40, and it has a cross-sectional size which is slightly smaller than the size of the pin 16, so that a frictional contact results when the pin is inserted in the passage. While the insert 34 is relatively flexible in nature, it is preferably formed of a relatively hard material so that it exerts a rather firm gripping or frictional force around the pin 16. Softer materials might be used of course; however, it has been found that if the material is too soft or flexible, it does not exert an adequate gripping force on the pin. Moreover, while plastic materials have been used for the insert, it must be recognized that other materials such as rubber, might also be used.

A cap 42, having a bore 44 which is slightly larger than the size of the pin 16, is secured to the abutment end 22 of the housing by crimping it to the flange 24. As illustrated, an abutment surface 46 of the cap 42 is substantially flat or smooth, and in use, it is positioned proximate the ear lobe. As illustrated in FIG. 3, both the bore 38 and the bore 44 are about the same size, and they are slightly larger than the size of the pin 16, as well as the size of the passage 36. In assembled relationship, the insert is positioned within the housing 18, and the cap 42 is affixed to the housing so that the bores 32 and 44, and the insert passage 36 are aligned along a common axis. Thus, the insert is retained in a fixed position within the housing.

In use, the jewelry piece 12 is readily secured to, or separated from, the clutch mechanism 10 by grasping the clutch mechanism, and more specifically the gripper portion 28, between two fingers on one hand, and the jewelry piece 14 in the other hand. The pin 16 is inserted through the opening in the wearer's ear lobe so that the ornament 14 is on the outer surface of the ear lobe. Since the insert passage 36 is slightly smaller than the pin 16, a friction engagement results which firmly, yet slidably, secures the clutch mechanism and the jewelry piece together when the pin is inserted within the passage. Since the insert is formed of a somewhat flexible or resilient material, it can be repeatedly used without undue wear. The clutch mechanism is slid onto the pin 16 until the cap 42, and more specifically, the abutment surface 46, is juxtaposed against the inner surface of the ear lobe. The space or gap between the abutment surface 46 and the ornament 14 can readily be adjusted by merely sliding the clutch mechanism along the longitudinal axis of the pin 16.

It might be pointed out that while the drawings illustrate the pin 16 as projecting through the opening 32 in the gripper end 20, it might be preferred to eliminate the opening 32 and merely have the pin 16 terminate within the housing 18. Elimination of the opening 32 reduces the likelihood of the end of the pin 16 accidentally sticking or jabbing the wearer. It is preferred however, to permit the end of the pin to project through the opening 32 because it permits the earring to be worn by a wider range of ear lobe sizes or thicknesses. In other words, if the ear lobe is very thin, the clutch mechanism 10 can be positioned closer to the ornament 14. In addition, it has been found that for sanitation and health purposes, it is preferred to have the end of the pin 16 project through the housing, rather than to have it terminate in the housing, as it is conceivable that bacterial deposits might tend to collect within the housing, if the opening 32 were not provided.

The above described invention results in a jewelry piece, and more specifically a pierced earring, which is considered an improvement over the known prior art. The clutch mechanism is simple in design and construction, it is easily adjustable to accommodate many different ear lobe sizes, it is easy to use and manipulate by inexperienced users or wearers, it is aesthetically attractive, and it is reliable and secure from disengagement and loss.

In the above description and attached drawings a disclosure of the principles of this invention is presented, together with a specific embodiment by which the invention might be carried out.

Now, therefore, I claim:

1. A clutch mechanism for releasably gripping a jewelry pin comprising a housing having a first end and a second end, said first end constituting a gripper end and said second end constituting an abutment end, said gripper end being substantially enclosed and smaller than said abutment end, said housing being provided with an indentation which surrounds said housing intermediate its ends and separates it into two portions, said indentation separating said housing into a gripper portion proximate said gripper end and a main body portion proximate said abutment end, both of said end portions being larger in cross-section than said indentation, at least the abutment end of said housing being provided with a bore therein, a closure member having a somewhat flattened surface, means for securing said closure member to the abutment end, said bore being formed in said closure member and a resilient insert having an elongated passage therein, said insert being positioned within said housing so that said passage is aligned with the bore in the closure member thereby forming a channel.

2. The combination of claim 1 which includes a jewelry member which is provided with an elongated pin and an ornamental member, said pin having a slightly larger cross-sectional size than the size of the passage in the insert, said clutch mechanism and said jewelry member being connected together by inserting said elongated pin into the channel formed in the clutch mechanism.

3. The combination of claim 2 wherein said jewelry member constitutes a pierced earring and the clutch mechanism is provided for releasably securing said pierced earring to a wearer's ear lobe, said ear lobe being interposed between the ornamental member and said clutch mechanism.

4. The combination of claim 1 wherein a bore is provided in the gripper end of the housing, said bore being aligned with the passage in the insert and the bore in the cap member, so that said elongated pin is permitted to extend through the channel formed by said bores and said insert passage.

5. The combination of claim 1 wherein the second end of the housing is provided with a surrounding flange, and the closure member constitutes a cap member which is connected to the housing by securing it to said flange.

6. The combination of claim 1 wherein said housing has a substantially circular cross-sectional shape, said
indentation being in closer proximity to the gripper end than said abutment end, and said bore has a slightly larger cross-sectional size than the size of the passage in the insert.