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EARRING CLASP

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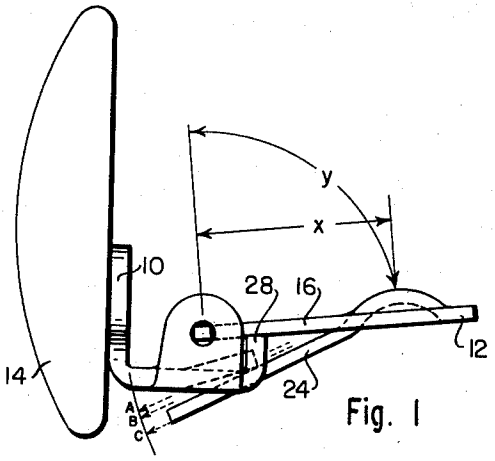


Fig. 1

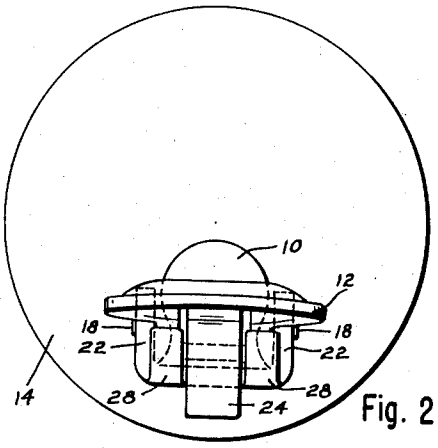


Fig. 2

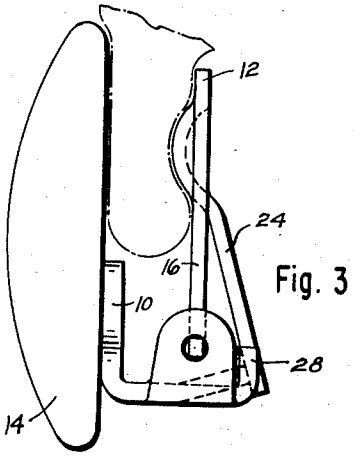


Fig. 3

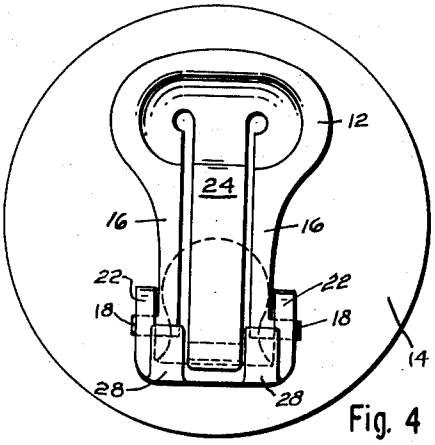


Fig. 4

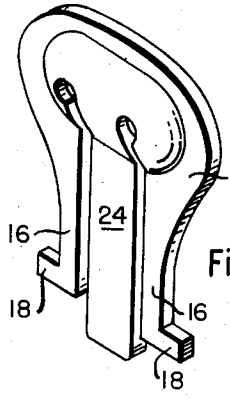


Fig. 5

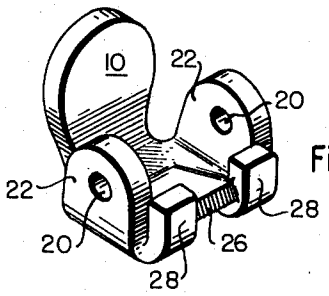


Fig. 6

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EARRING CLASP

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1 Claim. (Cl. 24—252)

This invention relates to earring clasps, and more particularly to earring clasps which operate on the principle of spring compression.

It is an object of my invention to provide an earring clasp in which relatively low grade spring metal may be employed in conjunction with a relatively short spring-operated lever arm. Another object of my invention is to provide such an earring clasp which cannot be inadvertently forced open and thereby destroy the useful life of the spring. Still another object of my invention is to provide such an earring clasp in which the fully open position is relatively near the ear lobe so that a sharp closing action does not result and also to provide means for holding the several elements of the clasp in tight engaging relationship when the clasp is in the open position thereby to avoid relative motion and rattle between the said elements.

In the accomplishment of these and other objects of my invention in a preferred embodiment thereof, I employ a spring operated clasp arm pivotally mounted on a base member which in turn supports the decorative element of the earring. The arm is generally horseshoe-shaped and is provided with a depending spring tongue positioned centrally within the clasp arm. The lower side members of the clasp arm are pivotally connected to the base member and the spring tongue of the clasp arm operates against a portion of the base member to either drive the base member towards a closed position or towards an open position depending on the relationship between the pivots of the base member and the point of contact between the spring tongue and the base member. Thus when the clasp is in the open position, the spring tongue operates against the point of contact on the base member to drive the base member further into the open position but when the clasp is pivoted towards the closed position, the point of contact of the base member on the spring tongue shifts until the force of the spring tongue tends to drive the clasp member in the opposite direction about the said pivot thereby to urge the base member thereafter into the closed position. It is a feature of my invention that when the clasp is in the open position, I provide a pair of stops mounted on the base member which come in contact with the clasp arm and prevent the base member from pivoting any further in the opening direction. It is also a feature of my invention that if such an exaggerated force is applied to the earring that the said stops bend the clasp arm in the area between the stops and the pivot of the clasp arm to the base member that such unwanted bending does not result in a permanent displacement in the spacial relationship between the spring tongue and the pivot of the clasp arm to the base member. In this way unwanted distortion of the clasp arm serves to compensate for an unwanted distortion in the spring tongue.

Still another feature of my invention relates to the design of the operating stroke of the spring tongue. By

employing the stops which are attached to the base, I can effectively shorten the operating stroke of the spring tongue and thereby employ a less expensive metal or obtain a longer spring life from similar metals hitherto employed.

Still another feature of my invention lies in the fact that the relationship between the stop members of the base element and the clasp arm is such that the open position is relatively close to the ear lobe and the clasp elements are not free to rattle when the clasp arm is in the fully opened position.

Further objects and features of my invention will best be understood and appreciated from the following detailed description of a preferred embodiment thereof, selected for purposes of illustration and shown in the accompanying drawings, in which:

Fig. 1 is a view in side elevation of the clasp of my invention in the open position;

Fig. 2 is a view in end elevation of the clasp shown in Fig. 1;

Fig. 3 is a view in side elevation of the clasp of my invention shown in the closed position as attached to the ear lobe of a wearer;

Fig. 4 is a view in end elevation of the clasp shown in Fig. 3;

Fig. 5 is a view in perspective of the clasp arm; and

Fig. 6 is a view in perspective of the base element of the clasp.

In the preferred embodiment of my invention herein shown, I employ a base element 10 and a clasp arm 12. An earring 14 is attached to the base element 10 in a suitable fashion. The clasp arm 12 is of a substantially horseshoe shape with a pair of depending arms 16 on each side and a pair of outwardly extending ears 18 on the arms 16. The clasp arm 12 is pivotally mounted on the base element 10 with the ears 18 extending outwardly into the holes 20 in upwardly extending ears 22 mounted on the base element 10. Centrally of the clasp arm 12 and depending therefrom between the arms 18 is a spring tongue 24 which is formed essentially from the same piece of metal as the clasp arm 12 by conventional punching techniques. When the clasp arm 12 is pivotally connected to the base element 10, the spring tongue 24 bears against an operating surface 26 of the base element 10. The relationship between the surface 26 and the spring tongue 24 and the pivots defined by the holes 20 is such that when the clasp is in the closed position, the tongue 24 bears against the surface 26 along the line which is substantially below the level of the said pivots, thus causing the base element 10 to be urged further into the closed position. Conversely when the clasp is in the open position assuming a frame of reference in which the clasp arm 12 is always vertical, and the base element 10 rotates on the pivots 20, the spring tongue 24 bears against the surface 26 in a position which is substantially above the pivots 20 thus causing the base 10 to be urged further into the open position. However, it will be noted that when the clasp is in a half open position, the surface 26 will have caused the spring tongue 24 to push away from the arm 16 to the maximum extent obtainable. This will henceforth be referred to as the position of maximum distortion of the spring.

In order to prevent the clasp from being pushed into an exaggeratedly open position such that the spring tongue 24 might be distorted beyond the said maximum position, I provide a pair of stops 28 mounted on the base element 10. The stops 28 are positioned to come up against the arms 16 when the clasp is in the fully open position and thereby to prevent the clasp from opening beyond that position. Of course, since the clasp

arm 12 is made of relatively soft metal, it is entirely possible that an exaggerated force might cause the clasp to open beyond the designed fully opened position, but it will be noted that when such is done the stops 28 will bend the arms 16 and in effect bring the pivot points defined by the holes 20 effectively closer to the spring tongue 24. Thus while an exaggerated opening force could conceivably permanently distort the spring tongue 24, it could not do so without also distorting the arm 16 and thereby equalizing the disadvantageous effect thereof.

In Fig. 1 I have shown a series of dotted lines with arrows to indicate the variations in stroke of the motion of the spring tongue 24. The dotted line indicated by the letter A represents the position of the spring tongue 24 if the stop members 28 were not present thereby allowing the surface 26 to recede further towards the plane of the arm 16. The dotted line indicated by the letter B represents the position that the spring tongue 24 would normally recede to if the base element 10 were not attached to the clasp arm 12. Thus it will be seen that under normal conditions the clasp will be held in the fully open position under spring tension thereby avoiding relative motion between the base element 10 and the clasp arm 12. The dotted line indicated by the letter C shows the position of the surface of the spring tongue 24 in the above-mentioned position of maximum distortion. Thus it will be seen that by my invention a fully satisfactory operation may be attained with a stroke of the spring tongue 24 limited to the distance between the dotted lines B and C. In other words, this permits me to use a shorter spring tongue and also to use a less permanently resilient metal while still staying within the range of maximum distortion of such metal consistent with long life thereof. The length of the spring tongue is shown by the dimension indicated at X, and the angle of the opened position is indicated at Y.

Since numerous minor variations of this preferred embodiment of my invention will now be apparent to those skilled in the art, it is not my intention to confine the invention to the precise form herein shown, but rather to limit it in terms of the appended claim.

Having thus described and disclosed a preferred embodiment of my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

A jewelry clasp, comprising a base with an upstanding ornament mounting lug and spaced pivot ears, a movable jaw having spaced arms pivotally mounted in the base pivot ears and an intermediate spring tongue engaging the outer edge of the base, said jaw being resiliently urged towards the ornament mounting leg by the spring tongue and being movable away from said lug to releasably receive an ear lobe therebetween, and stop abutments on said base extending into the path of movement of the movable jaw side arms away from said lug, to limit said movement.

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