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(54) **ATTACHABLE CLAMP FOR USE WITH A BROOCH PIN WITH A ROTABLE CLASP**

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(57) **ABSTRACT**

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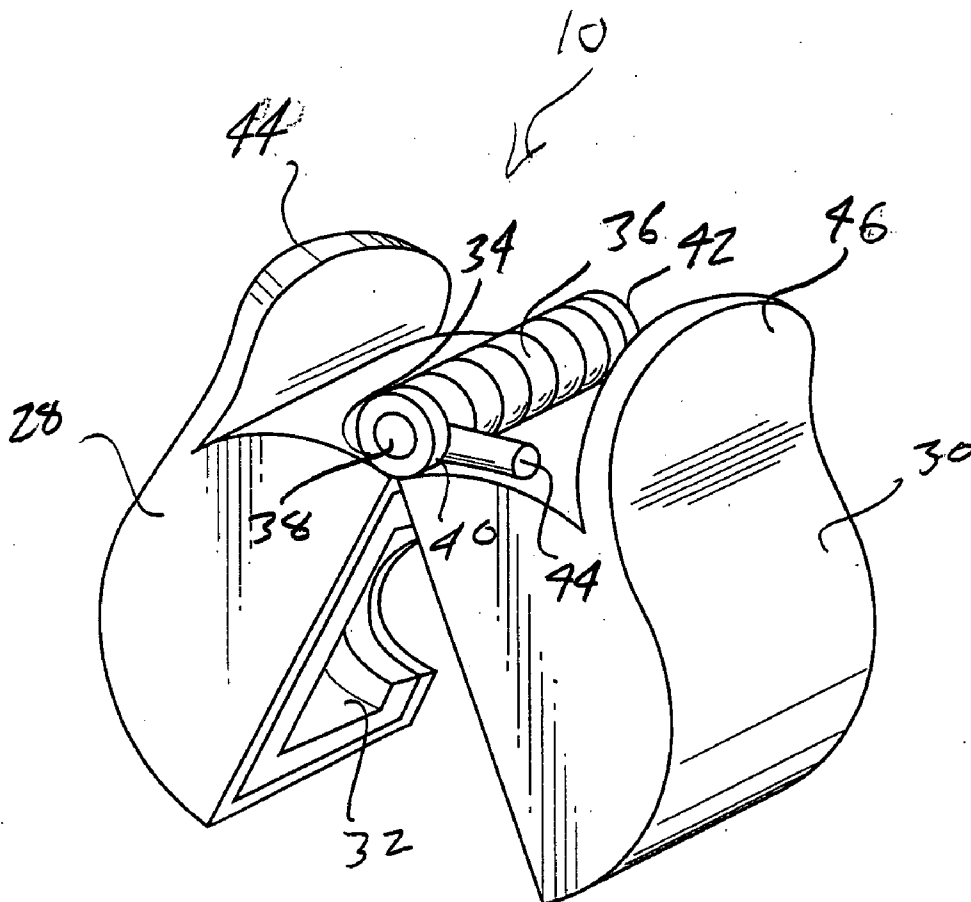
A clamp for use with a wearable jewelry item including a support surface to which is pivotally secured a pin. A clasp portion extends from a further location of the support surface and receives the pin in an engaged position. The clamp includes a body exhibiting a specified three-dimensional shape, inwardly facing surfaces associated with the body defining an inner recess substantially corresponding in configuration with the clasp portion. The body is adapted to being manipulated to seat the clasp portion within the inner recess and to bias the clasp portion in a manner to prevent disengagement of the clasp portion from the pin, without first removing said body.

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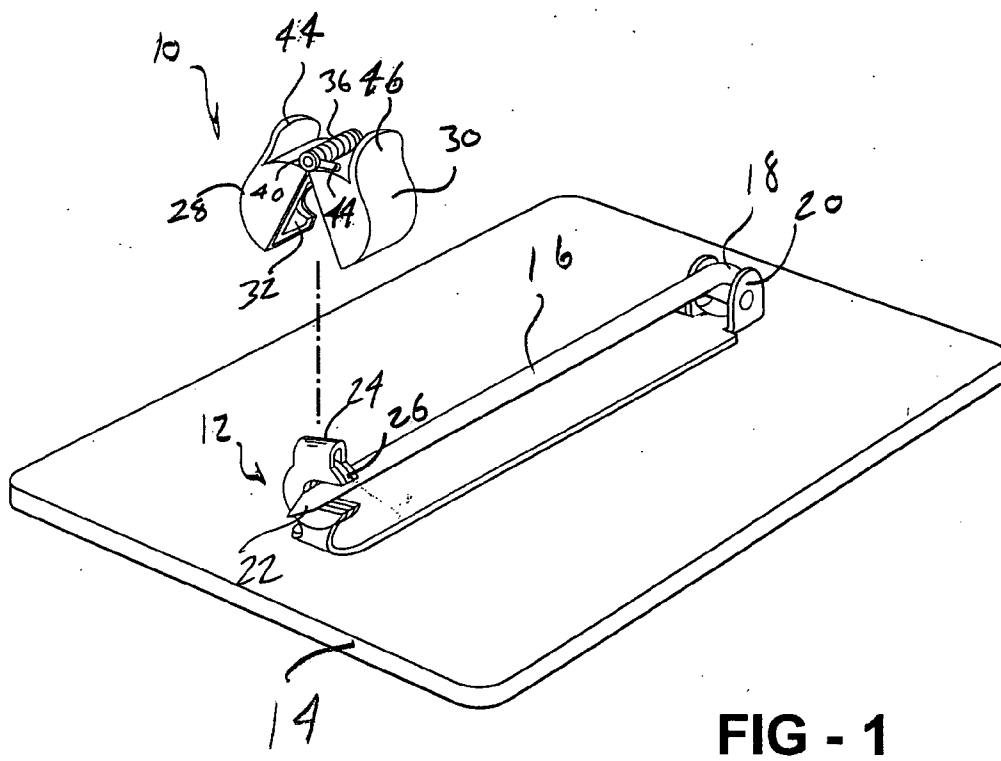


FIG - 1

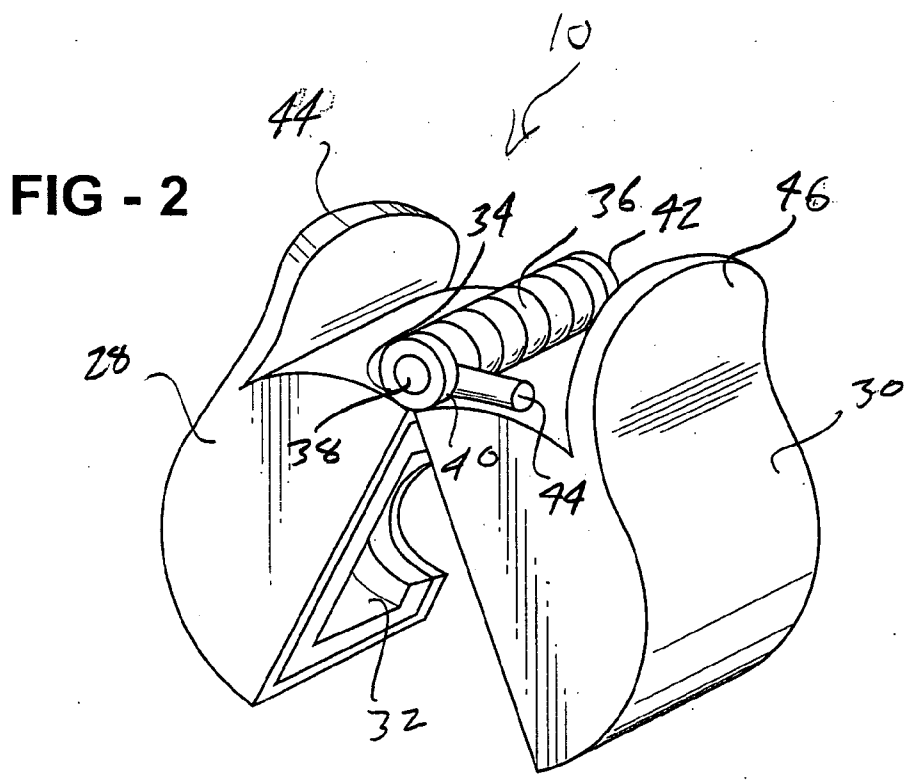


FIG - 2

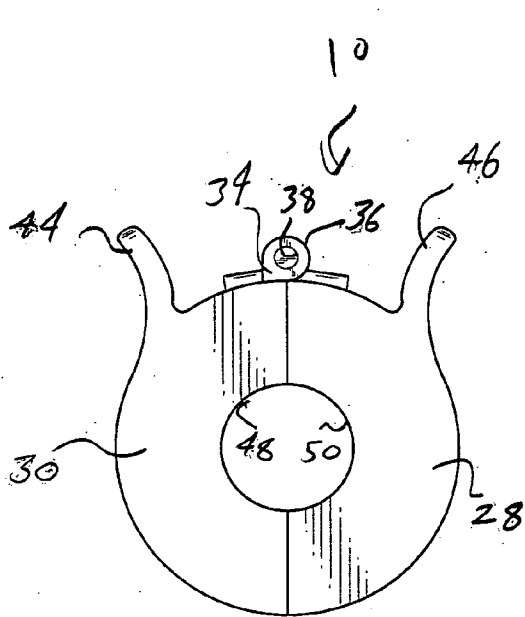


FIG - 3

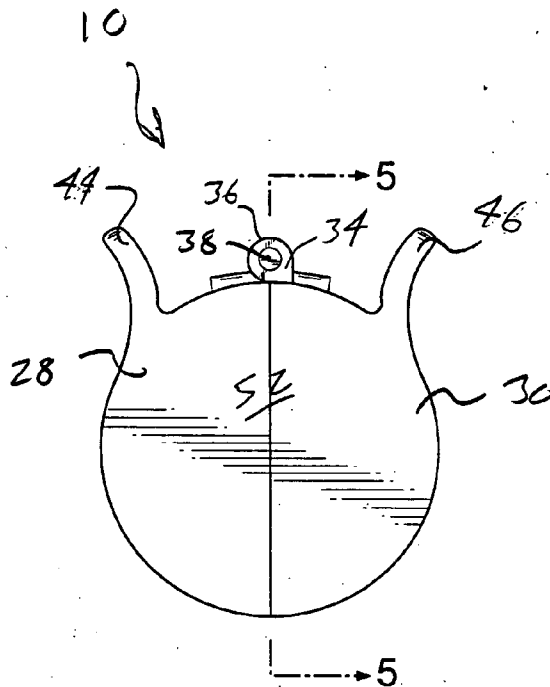


FIG - 4

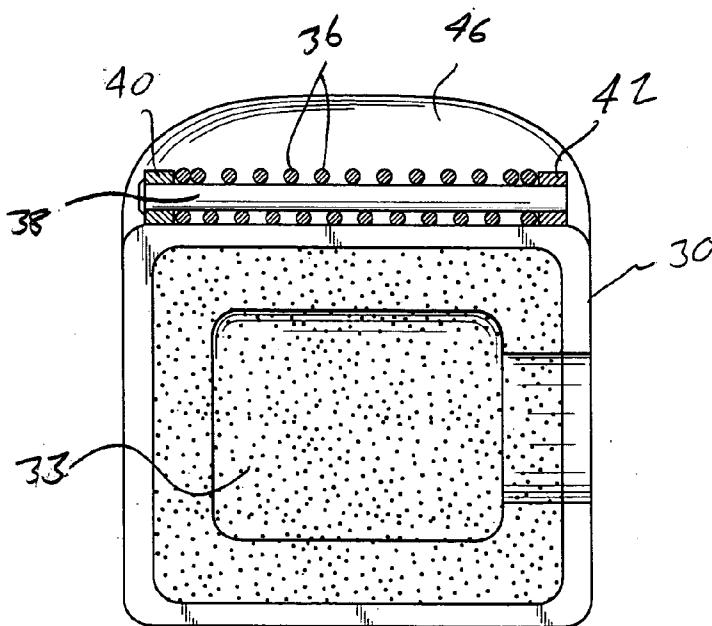


FIG - 5

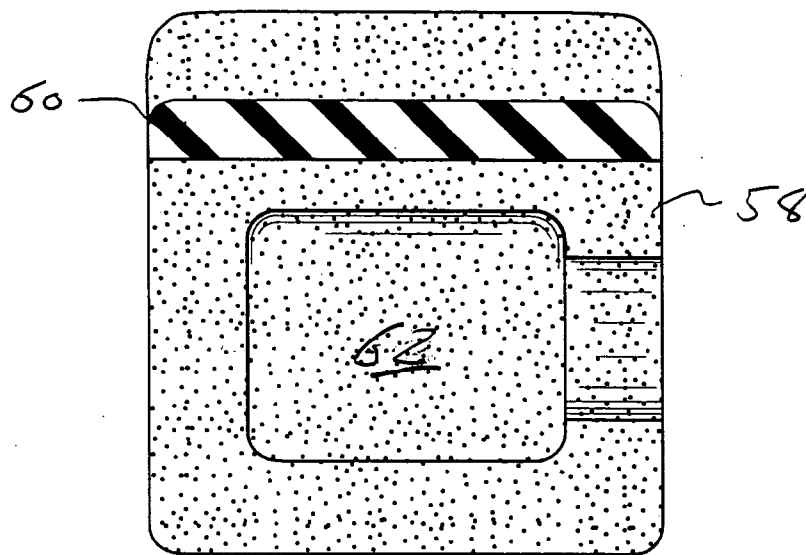
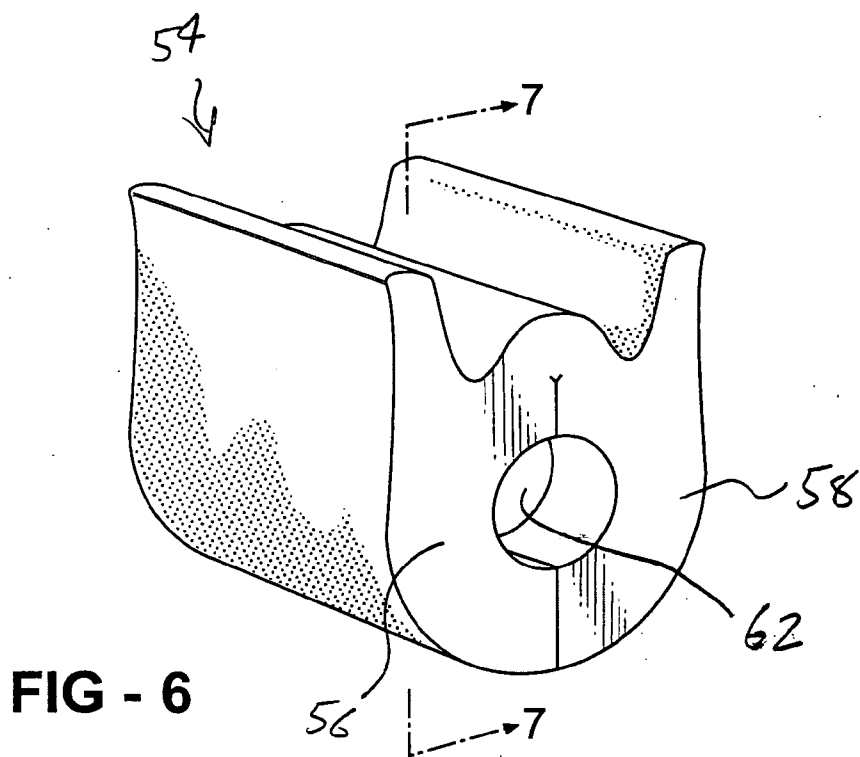


FIG - 7

ATTACHABLE CLAMP FOR USE WITH A BROOCH PIN WITH A ROTABLE CLASP

FIELD OF THE INVENTION

[0001] 1. Background of the Invention

[0002] The present invention applies to items of jewelry, and those in particular exhibiting a pivotally secured pin which is engaged by a rotatable clasp mounted to a reverse facing side of the jewelry item. In particular, the present invention teaches a biasing clasp attachment for securing over the spin closure, when engaged by a brooch pin, which prevents inadvertent disengagement of the pin from the clasp.

[0003] 2. Description of the Prior Art

[0004] The prior art is well documented with examples of fastening devices which are particularly suited for use with brooches and other like items of jewelry. The objective of such items is to prevent inadvertent disengagement of the jewelry item, such as when it is attached to an article of clothing.

[0005] A first example drawn from the prior art is set forth in U.S. Pat. No. 1,042,291, issued to Takahashi, which teaches a fastener for brooches and the like. Takahashi includes a standard brooch pin arrangement by which a cylindrical bearing engages and retains the pin upon the same being seated within longitudinally aligned openings formed in both the cylindrical bearing as well as an inwardly disposed and rotatable cylindrical retainer.

[0006] U.S. Pat. No. 708,610, issued to Zelly, teaches another type of fastener device for pins incorporating a bayonet slotted post rotatably secured to a rear surface of the associated jewelry item and for engaging a pivoting end of the pin. The post is rotatable about an axis extending perpendicularly to the rear facing surface of the jewelry item and to engaging the extending pin edge within a lower portion of the bayonet slot configuration.

[0007] U.S. Pat. No. 2,613,419, issued to Dorgelys, teaches a brooch fastener exhibiting a "U" shaped and spring-loaded member, utilized in combination with a locking member exhibiting outwardly projecting walls with pin seating surfaces, again secured to a rear facing surface of a jewelry brooch, and which operates to bias and retain a pivotally engageable pin end. The spring member seats between the pin seating surfaces associated with the locking member and, upon being compressed by the pin, fixedly biases the pin against underside surfaces of the leg portions.

[0008] Finally, U.S. Pat. No. 4,188,688, issued to d'Orgelys, teaches a fastener for use with a brooch and which includes a rotatable locking member having spaced opposing bayonet slots formed in arcuate wall portions of the locking member. The wall portions are discontinuous about diametrically aligned portions of the periphery of the locking member to define aligned openings which receive a portion of a safety pin or spring thereinto. The locking member is rotatable to engage the portion of the safety pin or spring within the bayonet slot, thereby to releasably lock the pin or spring therewithin.

SUMMARY OF THE PRESENT INVENTION

[0009] The present invention discloses a biasing clasp attachment suited for securing over a spin closure portion of

a brooch pin and, when engaged, prevents inadvertent disengagement of the pin from the clasp. The present invention is further an improvement over prior art brooch pin locking assemblies in that it provides a distinct and separable attachment, apart from the conventional clasp disclosure associated with the brooch pin, in order to prevent against inadvertent disengagement.

[0010] In a first preferred embodiment, a body has first and second biasingly engaging halves exhibiting, in combination, a three-dimensional shape. Inwardly facing surfaces associated with the halves define a three-dimensional inner recess substantially corresponding in configuration with the clasp portion.

[0011] A biasing and hinged connection is established between the first and second halves and further includes a coil spring. A support pin inserts between a plurality of coiled windings associated with the spring, along aligning edge locations of the halves, and in order to bias the halves in an opposing and closed position.

[0012] The first and second halves are capable of being manipulated, such as by opening against the biasing force of the spring, and to seat the clasp portion within the inner recess. Upon release, the body biases against the clasp portion in a manner to prevent disengagement of the clasp portion from the associated brooch pin, and without first removing the clamp body.

[0013] In a second preferred embodiment, the body is constructed of a unitary and elastomeric material and includes first and second biasingly engaging halves exhibiting, in combination, a three-dimensional shape. Inwardly facing surfaces associated with the body again define an inner recess substantially corresponding in configuration with the clasp portion. The body is again manipulated, such as again by spreading apart the biasingly engaged halves about a durable hinged location, in order to seat the clasp portion within the inner recess and to bias against the clasp portion in a manner to prevent disengagement of the clasp portion from the pin without first removing the clamp body.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Reference will now be made to the attached drawings, when read in combination with the following detailed description, wherein like reference numerals refer to like parts throughout the several views, and in which:

[0015] **FIG. 1** is an environmental view in perspective of the attachable clamp in arrayed fashion relative to a rotating clasp element of an associated brooch pin and according to a preferred embodiment of the present invention;

[0016] **FIG. 2** is an enlarged perspective view of the attachable clamp according to the preferred embodiment of **FIG. 1**;

[0017] **FIG. 3** is a first end view of the clamp illustrating a central through aperture for receiving an inserting edge portion of a pin;

[0018] **FIG. 4** is a second end view of the clamp shown in the embodiment of **FIGS. 1-3**;

[0019] **FIG. 5** is a cutaway view taken along line **5-5** of **FIG. 4** illustrating the features of the spring biasing hinge

and the elastomeric interior associated with the first and second opposingly engaging halves;

[0020] FIG. 6 is a perspective view of an attachable clamp according to a second preferred embodiment of the present invention; and

[0021] FIG. 7 is a cutaway view taken along line 7-7 of FIG. 6 which illustrates the elastomeric construction of the attachable clamp of FIG. 6.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] Referring now to FIG. 1, a biasing clamp attachment is illustrated generally at 10 which is suited for securing over a spin closure portion 12 of a suitable item of jewelry, most typically a brooch. The jewelry item exhibits a platform surface 14 or other suitable surface to which is secured a pin 16.

[0023] In a well known application, a first end 18 of the pin 16 is pivotally secured to a support 20 which is fixed to a projecting end location of the jewelry item surface 14. Upon first being pierced through a fabric or other wearable/weight supporting surface (not shown), the pin 16 is rotated downwardly and concurrently manipulated laterally, such that an extending pin edge 22 seats within an aligned opening of the clasp portion 12.

[0024] At this point, a rotatable portion 24 associated with the spin closure 12 is rotated relative to a fixed portion 26 (see again FIG. 1) in order to close the aligned opening. It has further been found that the rotating portion associated with such a conventional pin clasp design easily actuates to the aligned opening position, resulting in inadvertent disengagement of the pin 16, and typically the loss of the item 14.

[0025] Referring again to FIG. 1, as well as to the views set forth in FIGS. 2-5 in succession, the clamp 10 is again illustrated according to a first preferred embodiment of the present invention and includes a body having first 28 and second 30 biasingly engaging halves exhibiting, in combination, a given three-dimensional shape. Inwardly facing and contoured surfaces, see at 32 for first half 28 in FIG. 2, associated with the halves 28 and 30 define an inner recess which substantially corresponds in configuration with the exterior configuration defined by the clasp portion 12.

[0026] The arcuate shaping of the pivoting halves 28 and 30 establishes, in combination, a generally cylindrical shape which is hingedly secured together along a jointly extending edge portion 34. The edge portion may be integrally formed between the halves 28 and 30 (as will be subsequently described with reference to the embodiment of FIGS. 6 and 7) or, as is the case in the present embodiment, is formed by a coil spring 36, through which is inserted a support pin 38.

[0027] As is further illustrated in both FIG. 2 and the cutaway view of FIG. 5, a pair of spaced apart supports 40 and 42 sandwich coiled ends of the spring 36 further such that extending tabs (see at 44 in FIG. 2) associated with the spring 36 bias each associated half 28 and 30 in an opposing and mating direction. In this manner, the halves are biased in a closed direction in order to sandwichingly engage therebetween the rotating 24 and fixed components 26 of the clasp portion 12.

[0028] In the first embodiment, an outer surface associated with the first and second halves 28 and 30 is constructed of a first material such as a metal or durable, hardened plastic. An inwardly facing surface corresponding to the inward contour 32 evident in FIGS. 1 and 2 (which corresponds to first half 28) is further provided as a sponge-like or elastomeric material, most notably a rubberized inner core. The purpose of the inner core is to encase and secure to the clasp portion components when attached to the wearable jewelry item and an opposing and corresponding inner surface 33 is illustrated in the cutaway of FIG. 5 as referencing opposing clamp half 30.

[0029] Located in arcuately extending fashion along first and second top edges of the pivotal halves 28 and 30 (proximate the spring loaded hinge support 38) are first and second ear portions 44 and 46. The ear portions 44 and 46 function to provide gripping surfaces for opening and closing the clamp halves 28 and 30.

[0030] Referring first to FIG. 3, a first end face collectively defined between the halves 28 and 30 includes a central aperture defined by aligning and semicircular shaped inner edges 48 and 50, the purpose of the aperture being to receive an inserting edge portion of the jewelry (brooch) pin 16, upon the pin 16 first being secured to the clasp portion 12 and the clamp halves 28 and 30 subsequently being manipulated so as to secure thereover. A second collectively defined end face, see at 52 in FIG. 4, is solid however may also be apertured as is shown in FIG. 3 in order to accommodate longer pins 16.

[0031] Referring now to FIGS. 6 and 7, a second preferred embodiment of a clamp is illustrated at 54 which is constructed of a one-piece elastomeric material, such as a durable rubber or other material exhibiting the necessary properties of flexibility and resiliency. The clamp 54 again includes first and second biasingly engaging halves 56 and 58 exhibiting, in combination, a three-dimensional shape. As is also best shown in FIG. 7, the spring-loaded hinge and support pin of the first preferred embodiment is substituted by a strengthened elastomeric portion 60 which functions in a living hinge arrangement in order to provide the necessary degree of elasticity and durability to the integral construction of the clamp 54 to permit the halves 56 and 58 to be opened and closed about the clasp 12.

[0032] Inwardly facing surfaces, see at 62 for second half 58 in FIG. 7, associated with the body define collectively a three-dimensional inner recess, substantially corresponding in configuration with the clasp portion such as again previously shown at 12 in the environmental illustration of FIG. 1. Although not clearly shown, a corresponding and matching interior surface is also provided for first pivotal halve 56 and which, in opposing arrangement with the second halve 58, defines the necessary interior recessed configuration for seating the clamp over the clasp 12.

[0033] As previously disclosed, the body is adapted to being manipulated about the durable hinged location in order to seat the clasp portion in the inner recess and to bias against the clasp portion in a manner to prevent disengagement of the clasp portion from the pin without first removing the body. It is also envisioned that the body can be reconfigured according to a variety of different three-dimensional shapes. It is further envisioned that the hinge can be omitted in certain instances in favor of a more flexible outer clamp

body and the inner recess reconfigured, such as by rendering the same more accessible to the outer surfaces of the body, in order to fixedly engage the clasp.

[0034] Having described my invention, other and additional preferred embodiments will become apparent to those skilled in the art to which it pertains without deviating from the scope of the appended claims.

I claim:

1. A clamp for use with a wearable item, the item including a support surface to which is pivotally secured a pin, a clasp portion extending from a further location of the support surface and receiving the pin in an engaged position, said clamp comprising:

a body exhibiting a specified three-dimensional shape, inwardly facing surfaces associated with said body defining an inner recess substantially corresponding in configuration with the clasp portion; and

said body adapted to being manipulated to seat the clasp portion in said inner recess and to bias said clasp portion in a manner to prevent disengagement of the clasp portion from the pin without first removing said body.

2. The clamp as described in claim 1, said body further comprising first and second biasingly engaging halves.

3. The clamp as described in claim 2, further comprising a spring defining a hinged connection between said first and second halves.

4. The clamp as described in claim 2, said body exhibiting a specified shape and size and further comprising an elastomeric material such that said first and second halves are biased in a direction towards one another.

5. The clamp as described in claim 2, said body exhibiting a specified shape and size, an outer surface associated with said first and second halves being constructed of a first material substantially hardened material, said inwardly facing surfaces being exhibiting a second and substantially elastomeric material.

6. The clamp as described in claim 5, said body exhibiting a specified shape and size, said first material including at least a metal, said second material including at least a rubber inner core secured to inner surfaces associated with said metal.

7. The clamp as described in claim 3, further comprising a pin inserting between a plurality of coiled windings associated with said spring.

8. The clamp as described in claim 1, said body exhibiting a specified shape and size, at least one of first and second end faces illustrating a central through aperture for receiving an inserting edge portion of the pin.

9. The clamp as described in claim 2, said body exhibiting a specified shape and size and further comprising ear portions extending from said first and second halves in proximity to a hinged connection established between said halves.

10. A clamp for use with a wearable item, the item including a support surface to which is pivotally secured a pin, a clasp portion extending from a further location of the support surface and receiving the pin in an engaged position, said clamp comprising:

a body having first and second biasingly engaging halves and exhibiting, in combination, a three-dimensional shape, inwardly facing surfaces associated with said halves defining an inner recess substantially corresponding in configuration with the clasp portion;

a biasing and hinged connection established between said first and second halves and further comprising a spring, a support pin extending between a plurality of coiled windings associated with said spring; and

said first and second halves being manipulated to seat the clasp portion within said inner recess and to bias against said clasp portion in a manner to prevent disengagement of the clasp portion from the pin without first removing said body.

11. A clamp for use with a wearable item, the item including a support surface to which is pivotally secured a pin, a clasp portion extending from a further location of the support surface and receiving the pin in an engaged position, said clamp comprising:

a body constructed of an elastomeric material and including first and second biasingly engaging halves exhibiting, in combination, a three-dimensional shape, inwardly facing surfaces associated with said body defining an inner recess substantially corresponding in configuration with the clasp portion; and

said body adapted to being manipulated about a durable hinged location in order to seat the clasp portion in said inner recess and to bias against said clasp portion in a manner to prevent disengagement of the clasp portion from the pin without first removing said body.

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