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SAFETY CATCH FOR PINS AND METHOD OF MAKING THE SAME  

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This invention relates to bar pins for use in mounting brooches, emblems and like articles of jewelry, and to a method of making the same.  

In the manufacture of brooches, emblems, class 29 pins and like articles of jewelry, it is the usual practice to solder or otherwise secure both the pivotal joint for the pin and the safety catch either to a bar which supports the brooch, or directly to the body of the brooch, and in either case it is absolutely necessary that the parts be so aligned that the pin tongue will register properly with the slot in the safety catch. This procedure not only necessitates a separate construction and assembly of both the safety catch and the pin joint, but also requires two separate and distinct operations in attaching these members to the brooch or bar. Moreover, the procedure is quite difficult to carry out and requires great skill and accuracy on the part of the workman, and in many cases involves a considerable loss of time and materials due to inaccuracy in assembling the parts.  

The principal objects of this invention are to provide an improved bar pin and a method of making the same whereby the aforementioned difficulties and objectionable features inherent in the usual practice are overcome; to provide a bar pin of simplified, compact, economical and durable construction which may be easily manufactured at a relatively low cost and which may be easily attached to a brooch, emblem or like article of jewelry without the necessity of using the high degree of skill now required; and to provide a bar pin wherein the pin joint and safety catch form an integral part of the bar, the whole constituting a compact unit wherein the parts are properly aligned so that it may be applied to a brooch, emblem or like article merely by securing the article to the body of the bar in any suitable manner.  

Further objects and advantages will be apparent from a consideration of the following description and accompanying drawings, wherein:  

Fig. 1 is a perspective view of a bar pin constructed in accordance with the present invention;  

Fig. 2 is an end view showing the keeper in open position;  

Fig. 3 is a view similar to Fig. 2, but showing the keeper in closed or locked position;  

Fig. 4 is a plan view of the bar pin showing the keeper;  

Fig. 5 is a perspective view of the bar pin with its ends punched and turned upwardly to provide supporting wings for the pin at one end and a post at the opposite end;  

Fig. 5a is an end elevation showing a post of modified construction;  

Fig. 6 is a side elevation of the pin;  

Fig. 7 is a plan view of a blank from which the keeper is constructed;  

Fig. 8 is a plan view of a partially formed keeper;  

Fig. 9 is a section on the line 9—9 of Fig. 3;  

Fig. 10 is a side elevation of the partially formed keeper bent about its transverse center prior to assembly with the post;  

Fig. 11 is a longitudinal section of one end of the bar pin showing the keeper assembled with the post;  

Fig. 12 is a view similar to Fig. 11, but showing a modified form of keeper;  

Fig. 13 is a side elevation of the keeper assembled with the post and illustrating a preferred method of forming the slot for the reception of the tongue of the pin;  

Fig. 14 is an end elevation of an assembled keeper and post showing the slot at the side;  

Fig. 15 is a longitudinal section through the completed keeper and post;  

Figs. 16 and 17 are inverted side elevations of the bar showing different means for attaching a brooch, emblem or like article to the bar pin;  

Fig. 18 is a plan view of one end of the bar blank provided with an eye to which a chain may be attached; and  

Fig. 19 is an enlarged elevation of a drive screw, used in conjunction with a bar having an aperture therein for attaching a brooch, emblem or like article thereto.  

The bar pin herein shown for the purpose of illustration preferably is made of sheet metal which offers substantial advantages such, for example, as lightness of weight, ease of working, and capability of taking a fine finish, although it is to be understood that the invention is not limited to any particular type of material, as I contemplate the use of various types of material which are capable of being worked.  

The bar member proper is made from a unitary blank 1 which may be stamped or otherwise formed from a suitable sheet of stock to provide a pair of transversely disposed wings 2 and 3 at or adjacent to one end and an enlarged portion 4 at its opposite end. The intermediate portion of the bar 1 may be shaped to provide a substantially flat enlargement 5 which constitutes a support to which a brooch, emblem or like article of jewelry (not shown) may be secured.
The central portion of the wings 2 and 3 are swaged or depressed along the broken lines of Fig. 4 to form upwardly projecting studs 7 and 8 (Fig. 5), and its enlarged end 4 is drilled or punched along the broken lines of Fig. 4 to provide a central opening 10. This operation may be performed by the use of suitable dies and may be carried out subsequent to or simultaneously with the forming of the original blank 1. The wings 2 and 3 are then bent upwardly at an angle to the body of the bar substantially less than 90° and the opposite end of the bar is bent upwardly at right angles so that the opening 10 is in substantial alignment with the longitudinal center of the bar, as shown in Fig. 5, this end hereinafter being referred to as the post. If desired, the enlarged end of the bar may be provided with an opening 10*, provided with a slot at its under side which defines a hooked end 4*, as shown in Fig. 5.

Although the partially formed bar pin, as shown in Fig. 5, preferably is formed by punching and bending the sheet metal blank as above described, various other procedures may be employed, such, for example, as coining, die-casting, etc. Regardless of the particular process employed in forming the bar member, the post 4 is formed integral with the bar 1 with the opening 10 or 10* disposed in proper alignment with the wings 2 and 3 which provide a support on which a pin 11 is pivotally mounted.

The blunt end of the pin 11 (Fig. 6) preferably is formed with flat parallel sides and is provided with an opening 12 which conforms in size to the diameter of the studs 7 and 8. In assembling the pin 11 with the bar member, its blunt end is first inserted between the wings 2 and 3 so that the opening 12 is correctly aligned with the studs 7 and 8 and the wings are then bent inwardly toward each other so that the studs 7 and 8 project into the opening 12 and provide a pair of pintles which support the pin for pivotal movement toward and away from the post about an axis which is at right angles to that of the openings.

The keeper is formed from a blank 15 (Fig. 7) which may be stamped out from a piece of sheet metal to provide similarly shaped ears 16 and 17. The center of the blank 15 is punched out to form a pair of yokes 18 and 19, and one of the ears 16 is swaged or depressed to form a hollow dome or cup 20 projecting from one side of the blank and the other ear 17 is likewise provided with a hollow stud 21 which projects from the opposite side of the blank.

Both the dome 20 and stud 21 are substantially circular in cross section, and their size and shape is such that the end of the stud 21 is adapted snugly to fit within the interior of the dome 20.

In assembling the keeper with the post, the yokes 18 and 19 are first bent about their transverse center, as shown in Fig. 10, and the stud 21 is then inserted through the opening 10 in the post, and by further bending the yokes toward each other the dome 20 is brought against the opposite face of the post so that the stud 21 projects into the interior of the dome and the yokes 18 and 19 straddle the edge of the post 4, as shown in Fig. 11. When thus assembled the dome 20 is resting on the post and the stud 21 provides a pintle which supports the ears for pivotal rocking movement about the post. The bent yokes 18 and 19 project outwardly in the form of loops and provide convenient means for rotating the keeper about the post, it being noted that the spaced yokes provide a recess in which the thumb or fingernail may be conveniently inserted.

Instead of forming a hollow dome on the ear 16, a countersunk or tapered opening 22 (Fig. 12) may be provided and the parts assembled as above described, in which case the stud 21 preferably projects into the opening 22 so that its outer end is substantially flush with the outer surface of the ear 16, as shown in Fig. 12.

After having assembled the keeper and post, the final step consists of forming a radial slot 25 somewhat more than half of the ears of the keeper and the post, this operation preferably being preformed by means of a milling cutter or burr 26 (Fig. 13) whose thickness is less than the inner diameter of the stud 21 but greater than the diameter of the pin 11.

The slot 25 may be formed in the upper part of the keeper and post so that it will be in alignment with the shank or tongue of the pin 11, as shown in Figs. 1 to 3, in which case the ears are first swung into a position corresponding to "open position" in the completed article (Fig. 2) and the slot 25 then cut radially through the upper edge of the post and corresponding portions of both ears, as shown in Fig. 13. If desired, the slot may be formed elsewhere, as for example on the side of the post, in which case the ears are swung to "open position," and the slot 25 then cut in from the side, as shown in Fig. 14. Where the post has either been formed with a slot, as shown in Fig. 5, or where the edge of the post has been slotted prior to assembling the keeper therewith, the ears are first swung into a position corresponding to the open position of the completed article and the slot 25 is then cut through the ears so that the line of cut registers with the previously formed slot or opening in the post.

The slotting or cutting operation merely removes sufficient material from the dome 20 and stud 21 to permit the tongue of the pin to enter the opening 10 of the post, and, as shown in Fig. 15, the major portion of the dome and stud remain intact so that the pivotal support for the ears is not disturbed or in any way impaired. In the completed article the ears are disposed on each side of the post and the stud 21 has a snug sliding fit within the opening 10 with its end projecting into and engaging the interior of the dome 20, thus securely locking the parts in assembled position, as shown in Fig. 15. As the various parts of the post and keeper closely interfit, there is preferably sufficient frictional engagement to prevent a free rotation of the keeper, and hence when it is swung from open position (Fig. 2) to closed or locked position (Fig. 3), there is little or no danger of its being accidentally swung back to open position. Moreover, as both the pivotal support for the pin 11 and the post 4 are integral with the bar member 1, there is no danger of the parts becoming loosened or disengaged.

Although, as previously pointed out, the member 5 provides a support to which a brooch, bismark or like article may be nailed, cemented or otherwise secured, various other means may be employed for attaching an article of jewelry, etc., to the bar pin. For example, in Fig. 16 I have shown a threaded stud 30 on the support 5, this stud arrangement being particularly suitable for use in securing various types of jewelry such as galalith, ivory, ebony, compositions, etc., as shown in Fig. 17. I have shown a supporting plate 32 provided with a plurality of prongs 33 having beveled...
pointed ends which may easily be inserted in and clenchcd to the article to be held.

In Fig. 19 I have shown a drive screw 24 which may be inserted through a preformed opening 25 (Fig. 5) in the bar member 8 and embedded in the article to be attached, this type of connection being particularly adapted for securing compositions of the synthetic resin type to the bar. In certain types of jewelry wherein the emblem or like article is carried by a small chain, a guard pin usually is attached to the chain, and in Fig. 12 I have shown a bar pin having a small ring or eye 24 integrally with one of the wires 23, this ring or eye providing an anchorage to which such chain may be conveniently attached.

It will be noted that as the outer ends of the bent yokes 18 and 19 are spaced from each other, one of them is always in an easily accessible position irrespective of the relative position of the keeper and post (note Figs. 2, 23 and 14), and hence the keeper may be quickly and conveniently operated to lock or release the pin.

While I have shown and described one desirable embodiment together with certain modifications, it is to be understood that this disclosure is for the purpose of illustration only and that various changes and modifications both in procedure and in the construction and arrangement of parts, as well as the substitution of equivalent elements for those herein shown and described, may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

1 claim:

1. An article of the class described comprising a bar member having adjacent to one end an integral outstanding lug provided with an opening and a slot leading therefrom, said lug constituting a post adapted to receive the tongue of a pin, and a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having a stud snugly fitting within the opening in said post and providing a pintle which supports said ears for pivotal movement about said post, the inner ear having a radial slot which registers with the slot in said post when said ears are swung into position to receive the tongue of the pin.

2. An article of the class described comprising a bar member having an outwardly bent end provided with an opening and a slot leading therefrom, said bent end constituting a post adapted to receive the tongue of a pin, and a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having a stud snugly fitting within the opening in said post and providing a pintle which supports said ears for pivotal movement about said post, the inner ear having a radial slot which registers with the slot in said post when said ears are swung into position to receive the tongue of the pin.

3. An article of the class described comprising a bar member having adjacent to one end an integral outstanding lug provided with an opening and a slot leading therefrom, said lug constituting a post adapted to receive the tongue of a pin, and a pair of ears integrally joined to each other by an intermediate yoke member bent about the edge of said post, said ears being disposed on opposite sides of said post, one of said ears having a stud snugly fitting within the opening in said post and providing a pintle which supports said ears for pivotal movement about said post, the inner ear having a radial slot which registers with the slot in said post when said ears are swung into position to receive the tongue of the pin.

4. An article of the class described comprising a bar member having adjacent to one end an integral outstanding lug provided with an opening and a slot leading therefrom, said lug constituting a post adapted to receive the tongue of a pin, and a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having a recessed portion which registers with said opening and the other ear having a stud snugly fitting within said opening and extending into said recess and providing a pintle which supports said ears for pivotal movement about said post, the inner ear having a radial slot which registers with the slot in said post when said ears are swung into position to receive the tongue of the pin.

5. An article of the class described comprising a bar member having adjacent to one end an integral outstanding lug provided with an opening and a slot leading therefrom, said lug constituting a post adapted to receive the tongue of a pin, and a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having a hollow outwardly extending dome in alignment with the opening in said post, the other ear having a stud which projects through the opening in said post into the interior of said dome and provides a pintle which supports said ears for pivotal movement about said post, said ears having radial slots which register with the slot in said post when said ears are swung into position to receive the tongue of the pin.

6. An article of the class described comprising a bar member having adjacent to one end an integral outstanding lug provided with an opening and a slot leading therefrom, said lug constituting a post adapted to receive the tongue of a pin, and a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having an opening in alignment with the opening in said post, the other ear having a stud which projects through the opening in said post into the interior of said dome and provides a pintle which supports said ears for pivotal movement about said post, said ears having radial slots which register with the slot in said post when said ears are swung into position to receive the tongue of the pin.

7. A mounting for a brooch or similar article, comprising a bar member having integral means at one end pivotally supporting a pin to swing toward and away from its other end, an integral outstanding lug at said other end having an opening and a slot leading therefrom, said lug constituting a post adapted to receive the tongue of said pin through said slot, and a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having a stud snugly fitting within the opening in said post and providing a pintle which supports said ears for pivotal movement about said post, the inner ear having a radial slot which registers with the slot in said post when said ears are swung into position to receive the tongue of the pin.

8. A mounting for a brooch or similar article of jewelry, comprising a bar member having adjacent to one end a pair of spaced outstanding wing pieces pivotally supporting a pin to swing toward and away from its opposite end, an integral outstanding lug at said opposite end having an opening and a slot leading therefrom, said lug constit-
4. A post adapted to receive the tongue of said pin through said slot, and a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having a stud snugly fitting within the opening in said post and providing a pintle which supports said ears for pivotal movement about said post, said ears having radial slots which register with the slot in said post when said ears are swung into position to receive the tongue of the pin.

5. A bar pin having at one end an outwardly bent lug provided with an opening and a slot leading therefrom and at its opposite end a pin pivotally mounted to swing toward and away from said lug, said lug constituting a post adapted to receive the tongue of said pin, and means for locking said pin within said post, said means comprising a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having a stud snugly fitting within the opening in said post and providing a pintle which supports said ears for pivotal movement about said post, said ears having radial slots which register with the slot in said post when said ears are swung into position to receive the tongue of the pin.

6. A bar pin having at one end an outwardly bent lug provided with an opening and a slot leading therefrom at its opposite end a pair of integral upstanding projections pivotally supporting a pin to swing toward and away from said lug, said lug constituting a post adapted to receive the tongue of said pin, and means for locking said pin within said post, said means comprising a pair of ears integrally joined to each other and disposed on opposite sides of said post, one of said ears having a stud snugly fitting within the opening in said post and providing a pintle which supports said ears for pivotal movement about said post, the inner ear having a radial slot which registers with the slot in said post when said ears are swung into position to receive the tongue of the pin.

7. A safety catch comprising a member having an outstanding part constituting a post, said post having an opening and a slot leading therefrom to receive the tongue of a pin, and a pair of ears disposed on one each side of said post and integrally joined to each other by an intermediate yoke straddling the edge of said post, one of said ears having a recess registering with said opening and the other ear having a stud which projects through said opening into said recess and provides a pintle for supporting said ears for pivotal movement about said post, said ears having slots which register with the slot in said post when said ears are swung into position to receive the tongue of the pin.

8. A safety catch comprising a post having an opening and a slot leading therefrom adapted to receive the tongue of a pin, and a pair of ears disposed on each side of said post and integrally joined to each other by an intermediate yoke straddling the edge of said post, one of said ears having an opening which registers with the opening in said post and the other ear having a stud which projects through the opening in said post into the opening in the first ear and provides a pintle for supporting said ears for pivotal movement about said post, the inner ear having a slot which registers with the slot in said post when said ears are swung into position to receive the tongue of the pin.

9. A safety catch comprising a post having an opening and a slot leading therefrom adapted to receive the tongue of a pin, and a pair of ears disposed on each side of said post and integrally joined to each other by an intermediate yoke straddling the edge of said post, one of said ears having a hollow dome in alignment with said opening, and the other ear having a stud which projects through said dome and provides a pintle for supporting said ears for pivotal movement about said post, the inner ear having a slot which registers with the slot in said post when said ears are swung into position to receive the tongue of said pin.

10. Method of making a bar pin having a safety catch, which comprises forming an opening in one end of the bar, bending said end outwardly substantially at right angles to the body portion of said bar to provide a post adapted to receive the tongue of a pin, forming a stud on one of a pair of ears integrally joined to each other by an intermediate yoke, bending said yoke about said post so that the ears are disposed one on each side of said post and said stud projects into said post and provides a pintle which supports the ears for pivotal movement about said post, and cutting a slot part way through said ears and said post and radially of the pivotal axis of said ears to a depth including said axis.

11. Method of making a bar pin having a safety catch, which comprises forming a blank having an aperture in one end and a pair of laterally projecting wings at its opposite end, forming an outstanding stud on each wing, bending said wings upwardly toward each other, assembling therewith a pin having an opening in one end so that said studs project into the opening and support the pin for pivotal movement toward and away from the first end of said blank, bending said first end outwardly substantially at right angles to the body portion of said bar to provide a post adapted to receive the tongue of a pin, forming a stud on one of a pair of ears integrally joined to each other by an intermediate yoke, bending said yoke about said post so that the ears are disposed one on each side of said post and said stud projects into said post and provides a pintle which supports the ears for pivotal movement about said post, and cutting a slot approximately half way through said ears and post and radially of the pivotal axis of said ears.

12. Method of making a bar pin having a safety catch, which comprises forming an opening in one end of the bar, bending said end outwardly substantially at right angles to the body portion of said bar to provide a post adapted to receive the tongue of a pin, forming a stud on each of a pair of ears integrally joined to each other by an intermediate yoke, bending said yoke about said post so that the ears are disposed one on each side of said post and
said stud projects through said opening into said recess and provides a pintle which supports the ears for pivotal movement about said post, and cutting a slot approximately half way through each of said ears and radially of their pivotal axes.

19. Method of making a bar pin having a safety catch, which comprises forming a slot in one end of the bar, bending said end outwardly substantially at right angles to the body portion of said bar to provide a post adapted to receive the tongue of a pin, forming a stud on one and a hollow nodule on the other of a pair of ears integrally joined to each other by an intermediate yoke, bending said yoke about said post so that the ears are disposed one on each side of said post and said stud projects through said opening into the interior of said nodule and provides a pintle which supports the ears for pivotal movement about said post, and cutting a slot approximately half way through said ears and post and radially of the pivotal axis of said ears.

20. Method of making a bar pin having a safety catch, which comprises forming an opening in one end of a lug, forming a stud on one of a pair of ears integrally joined to each other by an intermediate yoke, bending said yoke about said lug so that the ears are disposed one on each side of said lug and said stud projects into said opening and provides a pintle which supports the ears for pivotal movement about said lug, and cutting a slot part way through said ears and lug and radially of the pivotal axis of said ears to a depth including said axis.

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