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POSITIONING DEVICE FOR PIN STEM FINDING

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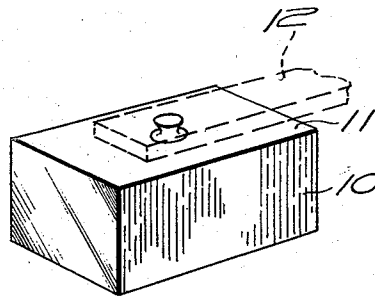


FIG. 1

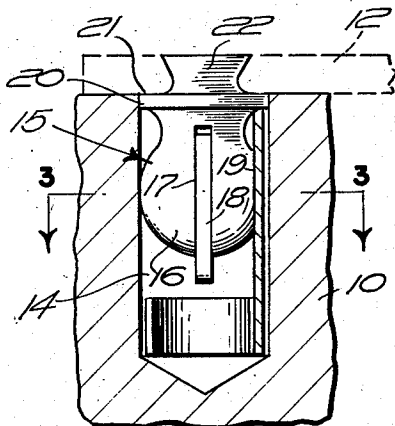


FIG. 2

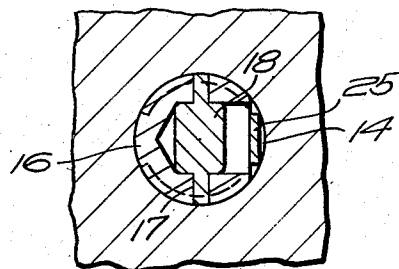


FIG. 3

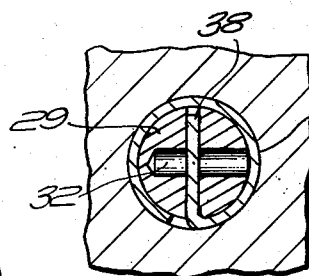


FIG. 6

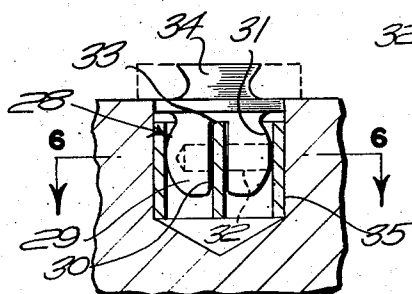


FIG. 5

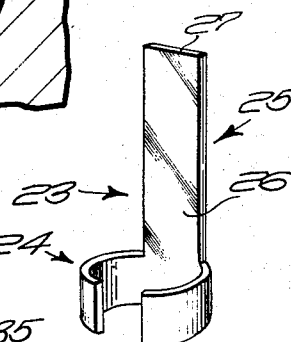


FIG. 4

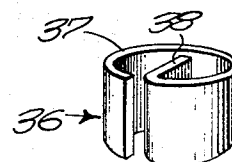


FIG. 7

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POSITIONING DEVICE FOR PIN STEM FINDING

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1 Claim. (Cl. 22—116)

This invention relates to the forming of an article of jewelry with a pin stem finding thereon.

A number of articles of jewelry are cast by the flowing of metal into a mold and thereafter a pin stem joint and pin stem catch are attached thereto. More recently there has been developed a pin stem finding such as a catch or a joint which has a portion extending from its base so that it may be embedded in the article of jewelry as the article of jewelry is cast or molded. This pin stem finding in such cases is held in position and the article to be formed cast about a portion of the base of this pin stem finding. Some difficulty has been experienced in positioning and holding the pin stem finding in the correct relation to the article of jewelry.

One of the objects of this invention is to provide a means and a method of holding the pin stem finding in position at the time that the article of jewelry is cast about the base portion thereof.

Another object of the invention is to provide a clip which may be of the correct dimensions to co-operate with the pin stem finding and which may be removably positioned in a recess in the mold for accommodating the pin stem finding and which will hold the finding in position.

With these and other objects in view, the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings:

Figure 1 is a perspective view of a block which forms a part of the mold in which block there is a recess to receive the pin stem finding, in this case a safety catch, and into which recess the pin stem finding is shown as positioned, the article to be cast about it being shown in dotted lines with the remainder of the mold removed;

Figure 2 is a sectional view longitudinally of the bar shown in dotted lines in Figure 1;

Figure 3 is a sectional view on line 3—3 of Figure 1 showing the relation of the parts;

Figure 4 is a perspective view of the holding device of Figures 1—3 which is inserted in the recess which receives the pin stem finding;

Figure 5 is a sectional view showing a pin stem finding which in this case is a joint in position in a recess with a modified form of holding means therein;

Figure 6 is a sectional view on line 6—6 of Figure 5; and

Figure 7 is a perspective view of the holding device used in Figures 5 and 6.

A pin stem of the type mounted upon an article of jewelry, a badge, or the like is hingedly mounted in a joint at one end, while the other end is received in a catch which holds the pin stem in secured position after being passed through the garment of the wearer. These pin stem findings consisting of the catch and the joint are provided with anchor portions at their base which may be imbedded in or the article to which they are attached to be cast about this anchor extension from the base.

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In each case the slot in which the pin stem operates is provided in the finding. In the joint there is additionally at least one flat surface where the hole is formed for the pivot trunnions which have bearing in the body, and I utilize this flat surface, which in the present instance intersects a spherical body, for holding the pin stem finding in the desired position which it is to assume in order that the pin stem and joint may properly function, it being known that a certain relative position of these parts must be maintained in order that the pin stem may swing on its joint and have the desired relation with the catch. I have formed a positioning device which consists of a spring clip which may be received in a cylindrical recess and which will have a portion extending therefrom to provide a wall of the recess so as to engage the flat surface in a plane intersecting the body of the finding and hold the finding in desired position.

With reference to the drawings, Figures 1—4 are directed to the finding as a catch for the pin stem, while Figures 5, 6 and 7 are directed to a pin stem joint.

In Figure 1, 10 designates a block which is a portion of the mold presenting the mold surface 11 which forms one of the surfaces of the finished articles to be cast and which is designated as 12 and shown in dotted lines in Figure 1. This solid block 10 is provided with a cylindrical recess 14 as shown in Figures 2 and 3 which is of a size to receive the pin stem finding which in this case is shown as a safety catch 15. This safety catch has a spherical body portion 16 slotted as at 17 to receive the rotor 18 and which is formed with a flat surface 19 formed by boring through this side of the catch for providing the bearing in which the trunnions of the rotor 18 revolve. The body is flanged at its base portion as at 20 to present an annular surface 21 in a single plane for supporting the finding upon the article 12 with which it is to be assembled. An anchor portion 22 extends beyond this plane and below the spherical body 16 to be imbedded in the cast article 12. This cylindrical recess 14 is of a diameter substantially the diameter of the spherical body 16 as may be better seen in Figure 3.

In order to hold this safety catch in the position desired, I provide a clip 23 shown in perspective in Figure 4, which has an arcuate portion 24 of a size which when uncompressed is slightly larger than the cylindrical surface of the recess 14 but which may be slightly compressed so as to be slid along this cylindrical surface 14 and by its outward expansion frictionally grip the same along the arcuate portion 24. A wall 25 extends from the arcuate portion 24 and in the present case axially of the axis of the arcuate portions and provides a flat surface 26 which will engage the flat surface 19 of the body 16 to hold the finding, or catch in this case, from turning in the recess. There is sufficient grip of the arcuate portion 24 with the side walls of the recess so that the clip will itself not be twisted in the recess. This also assures that when the finding is placed in position, it will be positioned as desired with reference to the mold in which the article 12 is to be cast. The length of the wall 24 also may be utilized for limiting the insertion of the finding into the recess by reason of its end portion 27 engaging the flange 20 of the finding.

A similar scheme of operation is provided with the finding in the form of a pin stem joint. In this case the pin stem joint is designated generally 28, the body portion being designated 29 and consisting of a similar spherical surface 31 with a slot 30 therein. This slot provides a flat surface 31 in a plane intersecting the spherical surface. The formation of the bearing for the pin stem pivot is shown in dotted lines at 32. There will also be the flange 33 similar to that heretofore mentioned and the anchor portion 34. In this case the recess which will also be cylindrical is designated 35 but is of

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a lesser depth than the recess 14. It, however, will be cylindrical.

A positioning device is shown in perspective in Fig. 7 and designated generally 36 and comprises an arcuate portion 37 which is generally cylindrical with a wall portion extending radially inwardly from one of its ends and designated 38. The size of this cylindrical grip is such that it may be compressed slightly to be inserted in the recess 35 and when released will expand to grip the walls of this recess and maintain itself in fixed position. The wall 38 is of a size and is of such position as to extend through the slot 30 and engage one of the plane surfaces which will intersect this spherical outer surface of the body and will by reason of such engagement hold the joint in a definite position relative to the recess. The height or length of this wall may be such as to engage the bottom 33 of the slot 30 and limit the insertion of the joint into the recess.

It will appear from the above that by the use of the spring grip device which I have provided and each of which has a wall portion, the finding may be located in position in the recess which receives it so that when the article is cast about the anchor portion of the finding, it

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will be known that the slots and operating devices are properly aligned for correct functioning in the pin stem.

I claim:

In combination, a mold having a cylindrical insert receiving hole therein and a positioning device for a pin stem finding having a flat surface comprising an arcuate spring clip resiliently engaging the cylindrical wall of said hole, and a flat wall extending from said arcuate portion in a position to engage a plane surface of a pin stem finding to hold the same in set position in said hole.

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