ABSTRACT OF THE DISCLOSURE

A hair ornament that is adapted to be placed on the head of a wearer and that is formed of a spring wire material, a plurality of ornamental articles being cast around the spring wire such that arcuate-shaped bores are formed therein, the spring wire having an arcuate configuration and being received in snug fitting relation within the arcuate ornaments such that rotation of the ornaments on the wire is prevented.

The present invention relates to a hair ornament and to the method and apparatus for the manufacture thereof. More particularly, the present invention relates to a hair ornament that is formed of a spring wire material around which a plurality of ornamental articles are cast.

One of the objects of the invention is to provide a hair ornament that is defined by a spring wire having an arcuate configuration, and around which a plurality of ornaments formed of a nonferrous casting material are cast, the arcuate configuration of the spring wire preventing rotation of the ornaments on the wire after the casting thereon.

Another object is to provide a hair ornament defined by a spring steel wire and a plurality of ornaments that are cast in nonrotatable relation on the wire but in nonfusing relation with respect thereto.

Still another object is to provide a die that is utilized for the fabrication of a hair ornament and that includes die members on which locking means are formed for securing a spring wire in position during the casting of ornamental articles thereon.

Still another object is to teach a method of forming a hair ornament by which nonferrous casting material is formed around a spring steel wire to define a plurality of ornaments thereon, the ornaments' being cast in nonfusing relation with respect to the spring wire.

Other objects, features and advantages of the invention will become apparent as the description thereof proceeds when considered in connection with the accompanying illustrative drawings.

In the drawings which illustrate the best mode presently contemplated for carrying out the present invention, FIG. 1 is a perspective view of the die member of the present invention showing the position thereof during the formation of the hair ornament embodied therein.

FIG. 2 is a perspective view of the bottom die member illustrating the manner in which the spring wire is secured in place thereon;

FIG. 3 is a sectional view taken along lines 3-3 in FIG. 1;

FIG. 4 is a sectional view taken along lines 4-4 in FIG. 3;

FIG. 5 is a top view of the bottom die member illustrated in FIG. 2;

FIG. 6 is a sectional view taken along lines 6-6 in FIG. 5;

FIG. 7 is a perspective view of the finished hair ornament after the casting of the ornamental articles around the spring wire; and

FIG. 8 is a sectional view taken along line 8-8 in FIG. 7.

Referring now to the drawings and particularly to FIGS. 1 through 6, a centrifugal type die generally indicated at 10 is illustrated, and defines the apparatus for constructing the hair ornament of the present invention. The die 10 includes a top die member generally indicated at 12 and a bottom die member generally indicated at 14, the die members 12 and 14 cooperating to form the centrifugal die that is well known in the art. As will be described the die members 12 and 14 include specific constructional details that provide for the formation of a hair ornament generally indicated at 16 in FIG. 7.

In the finished form of the hair ornament 16, the component parts thereof comprise a steel spring wire 18 that is formed generally in an arcuate configuration. Bulbous end pieces 20 and 22 are joined to the free ends of the wire 18 and are located in adjacent relation in the unobstructed position thereof. It is understood that the spring wire 18 will be tensioned as the end pieces 20 and 22 are pulled in opposite directions, such as when the hair ornament 16 is placed on the head of the wearer.

Also formed as part of the hair ornament 16 are a plurality of ornamental articles 24 that are located on the arcuate-shaped spring wire 18 in spaced apart relation. As will be described, the ornamental articles 24 are cast around the spring wire 18 and since the articles are formed of a nonferrous casting material they will not fuse to the steel spring wire 18 during the casting process.

However, as illustrated in FIG. 8, since arcuate-shaped openings 26 are formed in each of the articles during the casting operation, the articles are prevented from rotating on the wire 18 and will be retained thereon in secure relation. As will further be described, the spring wire 18 is secured between the die members 12 and 14 by a unique locking construction so that the casting operation can be properly carried out. The ornamental articles 24 are thus cast around the spring wire 18 in nonfusing relation thereon and as previously mentioned, it will be apparent that since the openings 26 formed in the articles 24 are curved or arcuate in shape, these articles cannot rotate on the spring wire 18.

Referring again to FIGS. 2 through 5, the bottom die member 14 is illustrated in detail and, as shown, defines a circular plate preferably formed of a flexible material, such as rubber. Formed in the upper surface of the bottom die member 14 are a plurality of cavities indicated at 26, 28 and 30. The cavities 26, 28 and 30 define specific designs for forming ornamental articles like the articles 24 around the wire 18, and communicate with runners 31, 32, and 33 respectively, in turn communicating with main runners 34 and with a central opening 35 as is conventional in the centrifugal type of casting device. Buttons 37 are also secured to the upper surface of the bottom die member 14 and are provided for securing the top die member 12 thereto. Although not specifically illustrated, the top die member 12 is formed with cavities similar to cavities 26, 28 and 30 and cooperate therewith to form the ornamental articles when the casting material is introduced into the die 10.

Since the die members 12 and 14 are employed specifically for the casting of the articles 24 around the spring wire 18, it is essential that the spring wire 18 be fixed in secure position between the die members during the casting operation. For this purpose, the die members 12 and 14 are provided with a locking construction for the spring wire 18 which, as shown in FIGS. 2, 5 and 6, includes a plurality of projections 37 formed in spaced relation on the upper surface of the bottom die member 14 and a plurality of correspondingly formed depressions 38 formed in the surface of the die member 12. As shown particularly in FIGS. 5 and 6, each of the projections 37 is
formed with a groove 39 through the bottommost portion of which a restricted slot 40 extends. The restricted slot 40 is adapted to receive the spring wire 18 therein, and since the material from which the die member 14 is formed is substantially flexible, such as rubber, the spring wire 18 will be received in each of the restricted slots 40 in frictional engagement therewith.

The position of the cavities 26, 28 and 30 is arranged in the die members 12 and 14 so as to extend along a curvilinear line, thereby providing for receiving the arcuate portion of each of the spring wires 18 therein. The projections 36 are further located adjacent to the ends of the cavities 26, 28 and 30 so as to insure positive seating of the spring wire in the cavities. In order to lock the spring wire 18 within the slots 40 located in the projections 37, each of the depressions 38 formed in the die member 12 is provided with a central peak portion 42 that is adapted to be received within the groove 39 of the projection 37. The peak 42 thus cooperates with the groove 39 in which it is received to effectively lock the spring wire 18 within the slots 40.

The die member 12 is securely locked in place on the die member 14 by forming openings therein for receiving the buttons 36 in frictional relationship therewith. With the die members 12 and 14 located in the locked position thereof as seen in FIG. 1, the spring wires extend outwardly of the die members, suitable grooves formed in the side walls of the die members being provided for this purpose.

The casting operation by which the articles 24 are cast around the spring wire 18 is carried out in the conventional manner, that is, the die 10 is placed in a device that provides for rotation thereof. Nonferrous casting material is introduced into the die 10 in liquid form through the opening 35 of the upper die member 12 and is forced by centrifugal force into the cavities 26, 28 and 30 that define the articles 24, the articles 24 thus being cast in the required design around the spring wires 18. Since the spring wire 18 is formed of a ferrous material, the nonferrous casting material will not fuse thereto during the casting operation. However, because of the arcuate configuration of the spring wire 18 and the corresponding arcuate opening that is formed into the articles 24, the articles will be prevented from rotating on the spring wire.

After the casting operation, the die members 12 and 14 are separated, and the spring wires 18 with the articles cast thereon are removed from the die. The spring wire is then cut to the required form and the ends 20 and 22 attached thereto. Thereafter the spring wire 18 and the articles 24 as mounted thereon are plated in any conventional manner.

While there is shown and described herein certain specific structures embodying the invention, it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the underlying inventive concept, and that the same is not limited to the particular form herein shown and described, except as is set forth in the appended claims.

I claim:

1. In a hair ornament, an arcuate-shaped length of spring wire having opposed free ends that are disposed in spaced relation, said wire being semi-rigid and being bendable under tension in such a manner as to permit movement of the free ends away from each other for placement of the wire over the crown of the head of the wearer in tight fitting relation, at least one ornamental article being mounted in a non-rotating position on said spring wire and having an arcuate-shaped bore formed therein through which said wire extends, the cross sectional configuration of the portion of the wire that is received in said bore being circular and the bore having a corresponding cross-sectional configuration for receiving said wire therein, the surfaces of the portion of said wire that is located in said bore being disposed in engagement with the walls of said bore so that said wire is located in tight fitting relation in said bore, said article thereby being prevented from rotating on said wire.

2. In a hair ornament as set forth in claim 1, said spring wire being formed of a ferrous material and said ornament being cast of a nonferrous alloy, wherein said ornament is located on said wire in nonfusing relation with respect thereto.

3. In a hair ornament as set forth in claim 2, a plurality of said ornaments being mounted on said spring wire in spaced relation thereon, each of said ornaments being formed with an arcuate bore therein through which said spring wire extends.

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