United States Patent [19]

D'Apuzzo

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[54] **GEMS IN LINKED SETTINGS AND MECHANICALLY SECURED TO A BASE MEMBER**

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[52] **U.S. Cl.** **63/1**, 63/20, 29/160.6, 29/527.5

[51] **Int. Cl.**.....**A44c 25/00**

[58] **Field of Search**.....63/28, 20, 2; 29/160.6, 527.5; 132/48 R, 48 A, 50 A, 50 B

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[57] **ABSTRACT**

A chain of artificial gems in settings of sheet-metal, interconnected by links. The bottoms of the gem settings, and the sides, bottom and at least part of the top of each link, are intimately received in mechanically conforming portions of a cast base member that rigidly unifies the whole. In one example, the base member has an integral mounting formation that secures the gem-bearing unit to a bobby pin or other article, and in another example, the chain of artificial gems unified by the base member forms the bar of a barrette.

5 Claims, 7 Drawing Figures

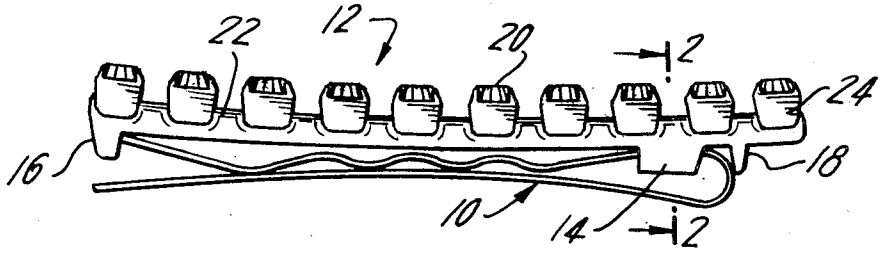


FIG. 1

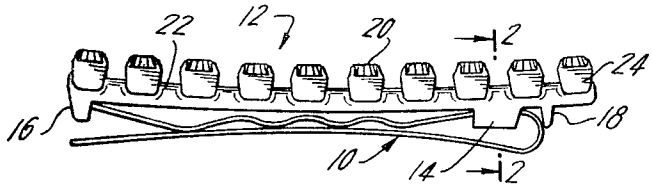


FIG. 2

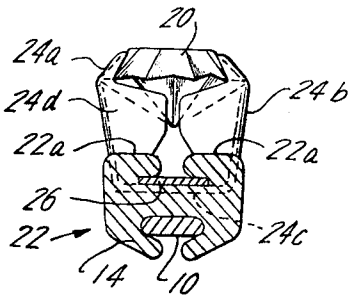


FIG. 3

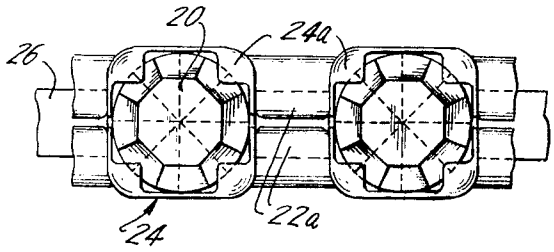


FIG. 4

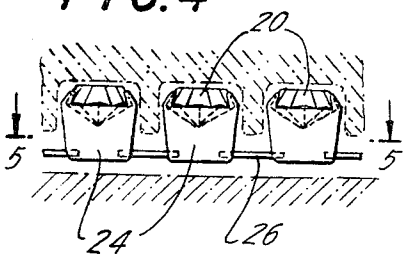


FIG. 5

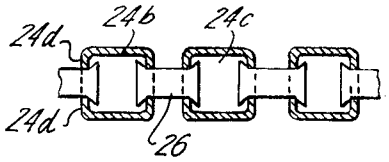


FIG. 6

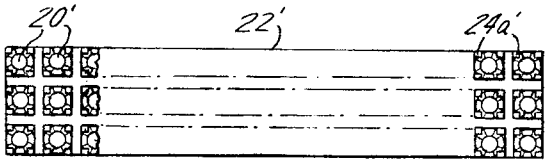


FIG. 7



GEMS IN LINKED SETTINGS AND MECHANICALLY SECURED TO A BASE MEMBER

This invention relates to articles decorated with artificial gems.

A traditional type of mounting for artificial gems has been a base member formed as a soft-metal casting having individual cavities for the gems. Cement is commonly used to secure the artificial gems in the cavities. In practice, that kind of mounting has proved insecure. The gems are often lost, being knocked out or just dropping out of their settings.

A secure mounting for artificial gems includes a series of gem settings of sheet-metal, interconnected as a chain by links. The gems are secured very effectively by bent-over tabs of the sheet-metal settings. These chains of gems can be used in various ways, as by sewing them to garments. In making a variety of jeweled articles, the settings are soldered to a base plate. The soldering operation requires deliberate care in the preparation of clean or cleaned solderable surfaces of the gem setting and the base plate. The manual care needed in handling the parts in the soldering operation adds significant cost, and the soldered joint is visible and is often unsightly. Finally, the resulting product has gems carried on tall miniature pillars, projecting unattractively from the mounting plate.

An object of the present invention resides in providing novel attractive jeweled articles combining advantages and avoiding disadvantages of the types of mounting outlined above.

This object of the invention, and other objects, advantages and novel features of the invention are achieved in the illustrative execution of the invention described in detail below and represented in the accompanying drawings. In the illustrative description, chains of sheet-metal mountings bearing artificial gems are unified by a base member. The bottoms of the settings and of the links interconnecting the settings are embedded in the base member, and the links are at least partly covered by portions of the base member. The artificial gems are thus securely held by dependable sheet-metal retaining tabs. The complete unit is a rigid article, with the lustrous surfaces of the artificial gems set at any desired attractive level relative to their background.

The described base is made by casting. Centrifugal casting is preferred where a casting alloy is used. Other suitable casting methods and other forming methods are contemplated where other materials are used, including plastics and other metals. In the described method, a chain of mounted gems is deposited in a casting cavity, each gem face in its own recess in the casting cavity; and when molten casting metal enters the cavity, it forms the base member with the gem settings partly embedded and the links embedded and at least partly covered. When the metal solidifies, the material of the base member conforms intimately to the gem settings and to the links, providing mechanical retention with no dependence on developing a metal-to-metal bond of the base to the settings.

The gems on their unified mounting are utilized in various ways. The jeweled unit can be secured to various articles such as bobby pins by means of mounting formations integral with the cast base member. The jeweled unit need not be secured to another part but may constitute an entire component, as the bar of a barrette. The jeweled unit can be used for various other purposes, as for adorning combs.

The nature of the invention, including the foregoing and other novel features, objects and advantages will be better appreciated from the following detailed description of the illustrative execution of the various aspects of the invention.

In the accompanying drawings:

FIG. 1 is an enlarged lateral view of an ornamented bobby pin, as an illustrative embodiment of certain aspects of the invention;

FIG. 2 is a greatly enlarged cross-section of the article in FIG. 1 as viewed from the plane 2—2 therein;

FIG. 3 is a greatly enlarged fragmentary top plan view of a portion of the article in FIG. 1;

FIG. 4 is a greatly enlarged lateral view of a chain of mounted gems, including phantom lines representing the cross-section of a centrifugal casting cavity;

FIG. 5 is a greatly enlarged fragmentary cross-section of the chain of mounted gems shown in FIG. 4 as viewed from the plane 5—5; and

FIGS. 6 and 7 are enlarged top plan and side views of a barrette, as a further embodiment of certain aspects of the invention.

Referring now to FIGS. 1–3, a bobby pin **10** is ornamented by the artificial gem unit **12**, secured to the bobby pin by turned-in legs of a mounting formation **14** integral with unit **12**. Also integral with unit **12** are locating projections **16** and **18** which limit or prevent sliding of unit **12** along the upper leg of the bobby pin.

Unit **12** comprises a series of artificial gems **20** in a chain of settings unified by base member **22**. Commonly, but not necessarily, artificial gems **20** are of clear or tinted glass, cut and polished, silvered on their back faces, and the silvering having a protective coating. Each gem is retained in its own gem setting **24**. The latter may be described as a sheet-metal box having sides **24***b*, a bottom **24***c* and bent-in ends **24***d* (see specially FIG. 2). The box has an open top and integral gem-retaining tabs **24***a* overlie and tightly secure gems **20** in the top of the setting. Links **26** of sheet-metal form articulated connections between the gem settings. The settings can be separated to the limit of the links as shown in FIGS. **4** and **5**, or the settings can be shifted closer together. The sheet-metal is brass, sheet-iron, or other sheet-metal that is suitably thin and ductile for the required bending of tabs **24***a* in securing the gems.

Base member **22** is made of white metal or slush metal or other casting alloy, and has a melting point far below that of the sheet-metal gem settings. As seen best in FIGS. **1** and **3**, the bottom of each setting **24** is embedded in base member **22**, as are links **26**. The metal of the base conforms to the gem settings and the links, within limitations of the casting process. There is no need here for anything but a secure mechanical bond of the base **22** to the chain of mounted gems, and no surface-to-surface bond is needed. Portions **22***a* of the base member overlie and at least partly cover links **26**. Portions **22***a* extend from each setting **24** to the next. Thus, portions **22***a* of the base member engage and complement the links and the end walls of the settings, and portions of base member **22** receive and conform to the bottoms of the gem settings **24**, to form a unified article. Furthermore, the level of the exposed gem surfaces in relation to the general level defined by portions **22***a* can be made optimum for attractive appearance.

The gems project individually but they do not stand on separate pillars so as to project excessively.

FIG. 4 shows the arrangement of the chain of mounted gems in a casting cavity, preliminary to the casting operation. The casting cavity is shown in cross-section, in phantom lines. The upper part of the casting cavity has recesses that receive the artificial gems and part of the mountings. This fit is close enough to prevent entry and flow of the casting metal, but it has been found that no exacting fit is needed. The flow of the metal in the casting operation can be made adequate for making the base member described, without the casting metal flowing over the gems. Warming the chain of gems before insertion into the mold has been found helpful in achieving the desired flow of metal in the casting operation. It was discovered that the casting heat does not harm the silvering of the gems, nor does it otherwise impair the luster of the artificial gems.

After casting, the metal structure of the base member and the gem settings are electroplated, as with gold. The gems remain bare and bright. They are not active in the electroplate process, and therefore no metal is deposited on the gems. The end result is a highly attractive yet sturdy product that is easy and economical to make. The jeweled bobby pin of FIGS. 1 and 2 is completed by crimping the integral mounting formation 14 of base member 22 against a leg of a bobby pin as in FIG. 1.

FIGS. 6 and 7 show the invention as it applies to a barrette. Parts that bear primed numbers correspond to like parts in FIGS. 1–5, but their description is not repeated here. The barrette of FIGS. 6 and 7 incorporates three chains of artificial gems and their settings, arranged in parallel lines. Integral portions 30 and 32 project from the rear face of member 22', considering the jeweled side of member 22' as its front face. Tongue 34 is secured to hinge portion 30 in any convenient manner as with a hinge pin, and integral portion 32 has a formed catch for the tongue. The latter may be of sheet-metal, or of multiple wires. The tongue is resilient and it may have any of the usual shapes found in barrettes.

The foregoing illustrative execution of the invention described above can be readily modified and applied variously by those skilled in the art, so that the invention should be construed broadly in accordance with its true spirit and scope.

What is claimed is:

1. A jeweled article including a plurality of gem settings of sheet-metal, artificial gems retained in said settings, a lustrous side of each gem being exposed to view at the top of its respective setting, and links interconnecting said settings and spaced from the tops of the settings, and a base member carrying said settings, gems and links, said base member including means firmly uniting mechanically the base member with said gem-settings and links, said means comprising base member portions receiving and intimately conforming to the bottom portions of said settings and to the bottom, sides and top of each of said links and at least partly covering each of said links.

2. A jeweled article in accordance with claim 1, wherein said base member is a metal casting intimately conforming to said links and said bottom portions of said settings, as aforesaid.

3. A jeweled article in accordance with claim 1, wherein said base member has a mounting formation at the side thereof remote from said gem settings for securement to another article.

4. A jeweled article in accordance with claim 1, wherein said base member has a mounting formation at the side thereof remote from said gem settings, said article further including a bobby pin having spring legs one of which is received in and secured by said mounting formation.

5. A jeweled article in accordance with claim 1, wherein said base member incorporates hinge and latch projections at the side of the base member remote from the gems, and an elongated resilient tongue pivoted to the hinge projection and cooperable with the latch projection, to constitute a barrette.

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