Dec. 12, 1939. M. LUCOMLIN 2,183,264

METHOD OF MAKING SETTINGS

Filed May 19, 1938

Fig. 1.

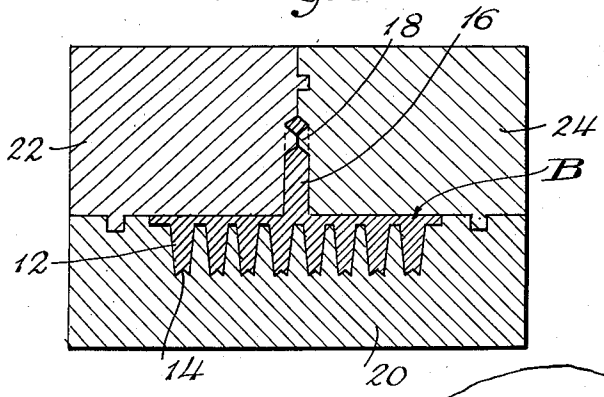


Fig. 2.

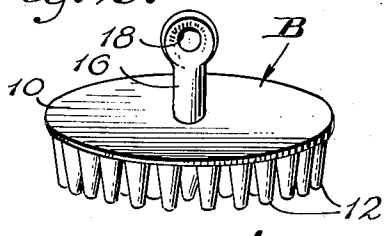


Fig. 4.

Fig. 3.

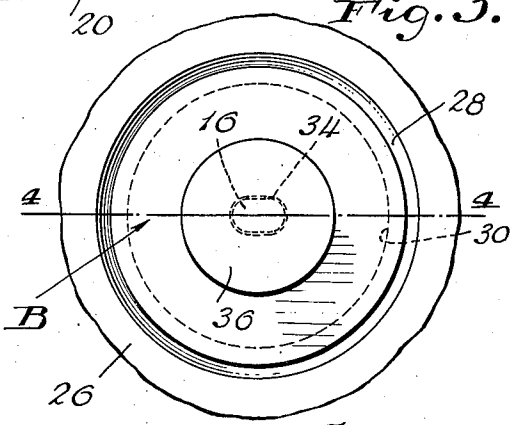
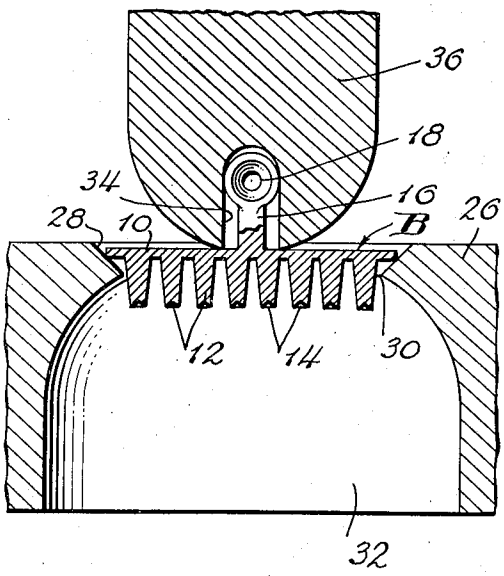
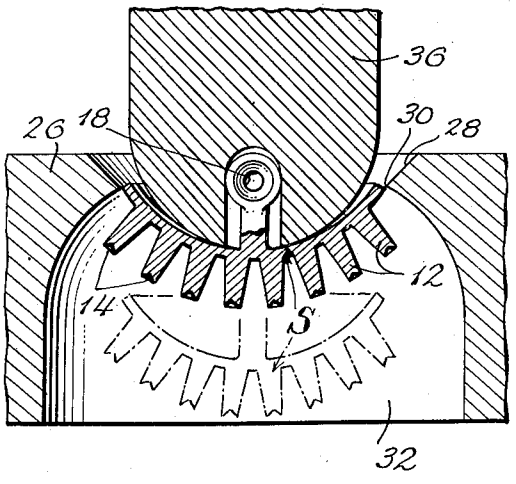


Fig. 5.





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METHOD OF MAKING SETTINGS

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3 Claims. (Cl. 29—160.6)

This invention relates to costume jewelry settings and more particularly to that type of jewelry setting that is commonly made from readily castable metal such as Britannia metal and in which more particularly an irregular contour such as a sunburst or expanded floral design may be obtained.

It is among the general objects of my invention to provide a method for manufacturing a setting for such an article of jewelry.

A setting for an expanded floral design or sunburst of conventional type may comprise an arched or spheroidal backing from which radiate a plurality of pistle like supports, each provided at its end with a socket or setting adapted to receive a jewel.

I have disclosed my invention as applied to the manufacture of such a conventional sunburst setting having a round backing plate of spherical curvature with setting supports in the form of pegs radiating outwardly from the convex surface thereof. However, it will appear, as the invention is more fully understood, that it is of much broader application than to a sunburst setting of the particular conformation herein disclosed. For example, the backing need not be of circular contour, nor need it be a continuous plate; nor need the pegs be of the contours illustrated.

Furthermore it will be clear that as to certain phases of my invention, it is not necessarily restricted in its application to sunbursts or other articles of jewelry.

In the manufacture of a sunburst setting of the type described, and the contours of which have been indicated in cross section at S in Figure 5, it is found difficult to produce the necessary contours economically and rapidly. Molds for casting such an article in one piece must be of very complex construction. The numerous pegs, each radiating in a different direction make the use of a simple mold impossible, and only molds having numerous intricately interfitting parts can adequately attain the desired contours. Their use is necessarily time-consuming. Similar difficulties are met with, if processes other than casting are employed and multipart assembly utilized to accomplish such construction.

It is therefore among the more particular objects of my invention to provide an effective and inexpensive method of making a sunburst setting in which a blank is produced by a simple casting operation, which blank is then formed to its final contours by a simple shaping operation. My method is particularly adapted for the manufacture of inexpensive costume jewelry such as is customarily made of Britannia metal, since this metal is readily cast and I have discovered is also readily bendable by die operations.

To attain these objects and such further objects as may appear herein or be hereinafter pointed out, I make reference to the accompanying drawing, forming a part hereof, in which:

Figure 1 is a section view of a mold for casting a blank adapted for the practice of my method, the blank being shown in place in the mold;

Figure 2 is a perspective view of the blank cast in the mold of Figure 1;

Figure 3 is a top plan view of a die adapted for shaping the blank of Figure 2 into a sunburst;

Figure 4 is a longitudinal sectional view substantially on the line 4—4 of Figure 3, showing the blank in position in the die, as it would appear before the forming operation;

Figure 5 is a view similar to Figure 4 but showing the parts as they would appear at the completion of the forming operation.

Making reference to the drawing, I have shown in Figure 2 thereof one form of blank B, that is adapted for the practice of my invention. It comprises a base plate 10 of circular contour, from which project substantially perpendicularly a plurality of pegs 12, each provided at its end with a socket or setting adapted for the reception of a jewel such as a rhinestone.

These sockets can be seen in Figure 1, in which they are numbered 14. A stem 16 provided with an eye 18 is shown as centrally positioned on the base plate 10 and as projecting upwardly therefrom. The stem 16 and eye 18 may serve to secure the sunburst to articles of clothing on the person of a wearer such as a button for a dress or a millinery ornament for a hat, but in the practice of my invention they are given additionally a peculiar function that will appear hereinafter.

The peg settings 12 may be of tapered conformation, as shown, whereby their withdrawal from the mold of Figure 1 is facilitated, as will appear hereinafter.

In Figure 1 is shown a mold for casting the blank of Figure 2 and the simplicity of its construction is apparent. The section 20 thereof is provided with a cavity that accommodates the entire blank B, with the exception of the stem; the latter is located between the sections 22 and 24 of the mold, two sections being necessary where it is desired to form the eye 18 by the casting operation. While I have found this construction to be highly satisfactory in practice, it is obvious that if desired the eye 18 might be formed in a subsequent operation, as by drilling, and in that case the contours of the blank might be replaced by a single section, thereby still further simplifying the mold.

In Figures 3, 4 and 5 I have shown a die in which the shaping of the blank of Figure 2 into a finished sunburst setting may be completed.

At 26 is shown a die or block constituting the female member of the die and having a tapered seat 28 adapted to receive the peripheral por-

tions of the base plate 10 of the blank B, and the block has a lower chamber 32 opening upward through the opening 30, that is relatively restricted, and the diameter of which is less than the diameter of the blank B. The chamber 32 is adapted to receive the finished articles, and may be in communication with a discharge opening. The latter is shown in place on the seat 28, and its stem is shown as seated within a cavity 34 of a punch or male die member 36, that is shown as circular in cross section and provided with a convex nose portion.

By referring to Figure 3 it will be observed that the cavity 34 conforms closely to the contours of the stem 16, which is of advantage in preventing relative axial tilting of the blank B and the punch 36 during the forming operation. Tilting movement of the blank B during the forming operation is prevented by the conjoint action of the portions of the nose of the die surrounding the cavity 36, and the seat 28. Lateral movement of the blank is prevented by the interengagement of the stem 16 and the cavity 34.

As the punch 36 is brought down in relation to the die 26, the middle portion of the base plate 18 of the blank B is forced below the peripheral portions thereof, and as a result of the concavity of the nose portion of the punch 36 and of the uniform stress distribution, resulting from the centering action of the stem 16 and the cavity 34, the reverse surface of the blank B is substantially uniformly concaved, while its observe surface becomes substantially spherical with the pegs 12 expanded and directed radially outwardly therefrom.

As the forming operation proceeds, the diameter of the base plate 10 decreases, and its peripheral portions slide downwardly along the surface of the seat 28 when its diameter is such that it will pass through the opening 30, the blank B, which is now in its final form and denoted in Figure 5 by the letter S, will drop from engagement with the seat 28 and into the cavity 32.

In actual practice I have obtained highly satisfactory results by making the diameter of the punch 36 equal to the diameter of the "peg circle," by which I mean the diameter of the circle containing and surrounding the outermost circle of pegs at their bases, while the curvature of the nose portion of the punch will be on a radius of half the diameter of the punch, whereby it will obviously be of hemispherical conformation. The opening 30 may be just large enough for the punch 36 to pass through. However, it will be understood that I do not intend to restrict myself to these relative dimensions and that for certain purposes other dimensions may be more satisfactory.

It will thus be observed that I have provided apparatus in which irregularly surfaced bodies in the nature of a sunburst setting may be formed by first utilizing simple casting operations thereby permitting such ductile materials of low cost character, such as britannia metal to be employed in such irregularly shaped articles and that I may accomplish this in a simple, economical and inexpensive manner.

It will also be observed that I have provided a simpler and inexpensive method for shaping articles without the employment of expensive dies or expensive machining operations and that expanded surface ornamentations may be imparted to simple settings made from castings.

It will further be observed that the mode of operation entails no complex dies.

While my invention is illustrated in the form of a sunburst setting for costume jewelry in which the sunburst effect is produced by a plurality of radially disposed pegs or settings emanating from a semi-spheroidal base, this is illustrative only and various floral effects may be similarly formed in which the radial sections emanate from a spheroidal or arched surface which are not conducive directly to casting operations.

Thus I may form any irregularly shaped contour upon the ornamental surface of any article under conditions suitable for simple casting operations and then expand the ornamental surface to convexly radiate on the surface so intended to be ornamented merely by a shaping operation following the simple casting operation thereby attaining from articles cast from this relatively inexpensive metal shapes and configurations heretofore incapable of achievement.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. The method of forming a setting for an article of jewelry having jewel holders projecting radially from a convexly arched supporting member, said method comprising the steps of casting a blank having jewel holders projecting perpendicularly from a flat supporting member, holding an inner portion of said blank so that it can move only in a direction perpendicularly to the plane of the supporting member, and moving said portion in said direction relatively to the peripheral portions of said supporting member and progressively moving zones surrounding said inner portion in the same direction, so as to cause said base plate to become convexly arched with said jewel holders projecting radially from the convex surface thereof.

2. In the method of forming a costume jewelry setting having a relatively thin backing and surface ornamental settings emanating therefrom and integral therewith, the extensiveness of said setting portions being many times the thickness of the backing and diverging in various directions to be incapable of casting by simple casting operations, the step or steps which include first casting by simple casting methods the backing with portions adapted to form the setting and arranged in respect of the backing in a manner that this casting is withdrawable from a simple casting mold, then shaping the casting so formed and withdrawn from the mold to diverge the surface ornamental setting portions by convexly forming the backing under conditions restraining only the periphery of the backing leaving the surface thereof free to expand while the backing is undergoing the forming operation, the surface being thus shaped to diverge said setting portions forming an expanded ornamental surface, the expanse thereof being larger than the backing.

3. In the method, in accordance with claim 2, the step of ejecting in the direction of the shaping operation the shaping being sufficiently extensive to free the casting from the restraining influence aforesaid.

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