

# UNITED STATES PATENT OFFICE.

PAUL EMILE LÉON PERDRIZET, OF PARIS, FRANCE.

PROCESS FOR THE MANUFACTURE OF ARTIFICIAL PEARLS, &c.

No. 804,034.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed November 1, 1904. Serial No. 231,029. (Specimens.)

*To all whom it may concern:*

Be it known that I, PAUL EMILE LÉON PERDRIZET, lapidary, of 4 Rue Elzévir, in the city of Paris, Republic of France, have invented a Process for the Manufacture of Artificial Pearls and other Articles, of which the following is a full, clear, and exact description.

Imitation pearls manufactured by known processes, and more particularly the large variety, are too fragile when hollow and too heavy when solid, and the manufacture of pearls of irregular form which are termed "baroques," is more costly than that of pearls of regular form in consequence of a special molding process having to be adopted in their production.

The present invention relates to a process of obtaining artificial pearls having a nacreous luster and possessing in a high degree the qualities of strength and lightness and presenting an irregularity of form (which is produced naturally in carrying out the process) which imparts to them an exact resemblance to the natural deformations of those genuine pearls which, as above stated, are known as "baroques."

According to my invention the body of the pearl is of gelatin, which in this process is dissolved in water and dried, the slight shrinkage of the gelatin which takes place in drying producing the irregularities of form which is characteristic of genuine pearls.

These artificial pearls are made in the following manner: The gelatin, which should be melted in a minimum quantity of water in order that the shrinkage in drying shall not be too great, is shaped, either by hand or by molding, into pearls of round, button, or pear shape (or of the shape of natural pearls, such as are frequently found in rivers) in such manner that the pearls present a perfectly regular surface free from roughness or sharp edges, and they are then immersed in a bath of hot water at a temperature of from 60° to 80° centigrade, and after being left in the bath for a few seconds only they are removed and rapidly cooled either by a current of air or by dipping in cold water. In order that the pearls may be easily handled during manufacture, they are each set upon the end of a rod which serves to support them while drying and which on withdrawal when the pearl is finished leaves a hole which serves to receive the setting.

This process permits of the employment of an entirely novel kind of setting or fixing for the pearls. When the body of the pearl has been brought to the desired form, it is mounted before being dried upon a gilt, silvered, or plain metal piece whose form and constitution would vary according to circumstances and which is adapted to be fixed to the article to be decorated by the pearl by screwing, riveting, welding, clenching, or otherwise. This metal piece is heated previously to being inserted into the body of the pearl, the heat of the metal melting the gelatin, thus allowing of the metal piece to penetrate it, so that the metal piece becomes integral with the pearl when the latter has been completely dried.

During the drying process a more or less considerable shrinkage, dependent upon the quantity of water contained by the gelatin, takes place, this shrinkage producing a pearl of irregular configuration similar to that of a natural baroque. The degree of shrinkage may be reduced at will by evaporating a portion of the water employed for dissolving the gelatin before shaping the pearl.

In the case, more especially, of large pearls an inert material, such as wadding, may be associated with the body of the pearl, the addition of such material having for effect to reduce the weight of the pearl, lessen the quantity of gelatin used, and limit the degree of shrinkage. The process of manufacture in this case is as follows: After the gelatin has been melted one end of the metal rod or support upon which the pearl is to be mounted is dipped into the gelatin, so as to gather up a certain quantity of the gelatin, and upon this bead or core of gelatin the requisite amount of wadding is wound, (the amount varying according to the size of the pearl to be produced,) and the mass is then again dipped into the gelatin, so as to coat the mass with gelatin, care being taken to turn it round in order to cause it to take up or gather the necessary quantity of gelatin to form the finished article. The material is then shaped as hereinbefore described. To the surface of the pearl after having been thus formed and after it has been perfectly dried is imparted a nacreous luster by the ordinary process, which consists in coating the pearl by repeated dippings with successive layers of gelatin suitably mixed with extract of white-bait scales, known as "essence of pearls" or



"Orient." The pearls when thus naced may then be glazed or dipped in a bath of prumol in order to render them insoluble.

To increase the whiteness of the pearl, zinc white, gonache color, or essence of pearls may be incorporated with the gelatin employed, the last-mentioned substance possessing the property of producing lustrous effects, which permit in certain cases of directly employing these pearls without dipping them in the lustering-bath. In this manner articles may be obtained having the appearance of mother-of-pearl and presenting a perfect imitation of mother pearl bosses known in commerce in France under the name of "primes de perles." These articles when made up in the form of buttons constitute a novel industrial product.

The gelatin employed may be colored, so as to impart to the pearls any desired shade of color.

Pearls produced by this process thus possess all the qualities as regards strength of solid pearls and are yet exceedingly light, which is a highly-appreciable advantage for articles of dress in which large pearls are employed, hat or other dress pins, buttons, brooches, &c.

I claim—

1. The herein-described process of manufacturing imitation pearls or articles presenting a nacreous effect, which consists in dissolving the gelatin which is to constitute the body of the pearl, in a minimum quantity of water and then drying the gelatin in such manner as to utilize the shrinkage which takes place for producing the irregular forms ordinarily presented by real pearls, substantially as specified.

2. The process herein described of manufacturing imitation pearls, which consists in dissolving gelatin in a minimum quantity of water, applying the gelatin upon a surface to be ornamented with the imitation pearl, and drying said gelatin so as to allow the same to shrink irregularly, thus finishing the imitation pearl.

3. The process, herein described, of making imitation pearls or the like, which consists in dissolving a substance of a kind which shrinks in drying, causing said substance to assume the general conformity of the pearl or other article to be produced, drying the same so as to produce an irregular form by the shrinkage of said substance, and treating the form thus prepared so as to prevent the same from dissolving again.

4. The process, herein described, of making imitation pearls or the like, which consists in dissolving in a mixture of water, such a substance as shrinks in drying, forming a body partly of this substance and partly of a non-shrinking substance, and allowing said body to dry so as to assume a shape somewhat irregular, the degree of irregularity of said shape being commensurate with the proportion of the substances used.

5. The method herein described of making imitation pearls, which consists in dissolving gelatin in a minimum quantity of water, forming the gelatin thus treated into a body of regular shape, causing said body to dry and undergo more or less shrinkage so as to change its form, and treating the body thus formed so as to prevent the same from dissolving again.

6. A process for the manufacture of artificial pearls imitating fine pearls, characterized by the fact that the body of the pearl is made of gelatin dissolved in a very small quantity of water, shaped by hand or by molding and then dried, in order to obtain while drying a shrinkage which imparts to the pearl an irregular shape fully imitating the natural deformations of genuine pearls, substantially as described.

7. A process for the manufacture of artificial pearls imitating fine pearls, consisting in dissolving gelatin in a very small quantity of water, in embodying therein an inert matter in the gelatin which is to form the pearl, in shaping this gelatin containing a core of inert matter and in drying the same so that the shrinkage due to thus drying will impart to the pearl an irregular shape imitating that of genuine pearls, substantially as described.

8. A process for the manufacture of artificial pearls imitating fine pearls, consisting in dissolving gelatin in a minimum quantity of water, in incorporating in this gelatin a substance capable of rendering the same translucent and opaline, in shaping the gelatin thus prepared and in drying, substantially as described.

The foregoing specification of my process for the manufacture of artificial pearls and other articles signed by me this 18th day of October, 1904.

PAUL EMILE LÉON PERDRIZET.

Witnesses:

JOHN J. BAKER,  
MAURICE M. PIGNET.