

# UNITED STATES PATENT OFFICE.

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## IMITATION DIAMOND.

SPECIFICATION forming part of Letters Patent No. 250,725, dated December 13, 1881.

Application filed October 26, 1881. (No specimens.) Patented in France November 20, 1880.

*To all whom it may concern:*

Be it known that I, JULES ANATOLE GROSSIORD, Jeune, of Paris, in the Republic of France, have invented a new and useful Improvement in Imitation Diamonds, which improvement is fully set forth in the following specification.

This invention has reference more particularly to the imitation diamonds made from glass or other transparent material in which the back of the stone is rendered reflective by a silver deposit or other bright coating. The ordinary method of applying this coating is to deposit the silver from a solution of ammonia nitrate of silver by means of a reducing agent—by preference, tartrate of soda or potash, (sel de Seignette,) or tartaric acid—the face of the stone being protected by a mixture of rubber and gutta-percha. The silver coating, by reflecting the rays transmitted through the stone, greatly increases its brilliancy. Silver-foil has been used for the same purpose. To protect this coating an alcohol or essence varnish which has no oxidizing effect upon the silver is applied over it. The present invention contemplates no improvement in this part of the mounting, but is designed to secure the stone, in a simple and inexpensive way, from being injured in handling, setting, or washing.

To make an imitation stone capable of standing the friction and washing to which it would ordinarily be subjected the stone has heretofore been set in a frame or box (culot) struck up from a sheet of gold, silver, or other metal, so as to fit the silvered and varnished portion of the stone. Not only is this a difficult and costly operation, but, owing to a want of close adherence between the metal frame, or culot, and the varnish, the air and moisture are liable to enter and the silver ultimately to become oxidized and its capacity as a reflector destroyed. These difficulties are avoided by the present invention, in which the stamped metal frame, or culot, is replaced by a coherent layer of metal deposited with or without the aid of a galvanic battery.

The following is deemed the best mode of carrying the invention into effect: The stone having received its reflecting-coating of silver

and the protecting-coating of varnish, a layer or film of powdered plumbago, metallic paint, or other suitable material conductive of electricity, is applied to the varnish, and the stone is placed in a solution of copper, and is included in a galvanic circuit, so that copper is deposited from the solution upon the varnish. When the deposited layer is thick enough, the stone is removed and plated with gold. The gold deposited upon the copper prevents it from oxidizing, while the latter gives strength to the envelope. The copper deposit, instead of being gold-plated, could be plated with silver, nickel, or other metal. Instead of depositing copper upon the varnish, other metal could be so deposited without departing from the spirit of this invention.

Although, as already stated, the invention relates more particularly to imitation diamonds made from glass, it is obviously applicable to all kinds of stones, natural or artificial, where it is desired to have their brilliancy increased by a reflecting layer at the back.

I claim—

1. In the manufacture of imitation diamonds, or in the preparation of artificial stones, natural stones, or other like objects wherein the brilliancy of the object is increased by means of a reflecting-coating at the back, the improvement consisting in depositing a coherent layer of metal over said reflecting-coating, so as to form a protection thereto, substantially as described.

2. An imitation diamond or other like object having a reflective coating applied at the back and a protecting layer of metal deposited over said coating, substantially as described.

3. The combination, with the reflective coating and its protective varnish, of the exterior protective layer of copper or other metal deposited thereon and plated, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JULES ANATOLE GROSSIORD, FILS.

Witnesses:

ROBT. M. HOOPER,  
DAVID T. S. FULLER.