(No Model.)

F. E. MEYER.

Process for Treating Real or Imitation Precious Stones, &c.

No. 233,364. Patented Oct. 19, 1880.

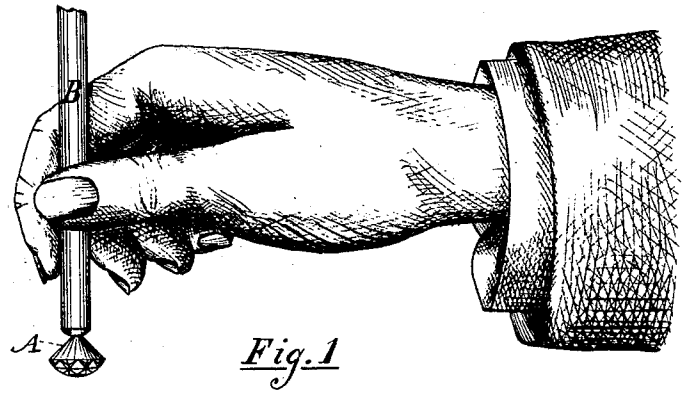


Fig. 1

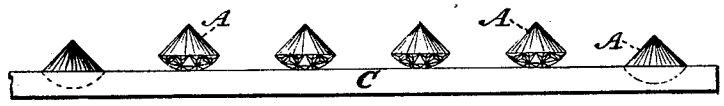


Fig. 2



Fig. 3



Fig. 4

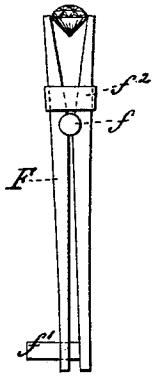


Fig. 5

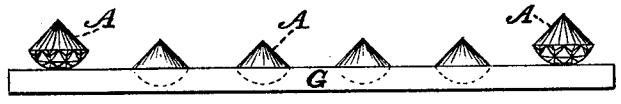


Fig. 6

Witnesses:

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UNITED STATES PATENT OFFICE.

FRANCIS ED MEYER, OF NEW YORK, N. Y.

PROCESS FOR TREATING REAL OR IMITATION PRECIOUS STONES, &c.

SPECIFICATION forming part of Letters Patent No. 233,364, dated October 19, 1880.

Application filed September 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS ED MEYER, of the city, county, and State of New York, have invented a new and useful process for treating real or imitation precious stones, composition of glass or paste, for the purpose of coating them, or rather one side of them, with a highly-reflective substance, so as to enhance the brilliancy of them, of which the following is a specification.

This invention is in the same line as and supplementary to Patents Nos. 223,237 and 229,328, both for improvements in real or imitation precious stones, and is designed to carry out and economically utilize the improvements set out in the said patents.

In this invention, as well as those above cited, a reflective coating is applied to the rear side of the real or imitation stone or gem; but the object of this invention is to speedily, thoroughly, and economically apply the said coating; and the invention will readily be understood by reference to the accompanying drawings, of which—

Figure 1 is an elevation, showing the hand of the operator grasping the coating-stick, to the lower end of which is attached or stuck one of the stones or gems that is about to be treated. Fig. 2 shows an elevation of a slab, table, or board upon which the real or imitation stones or other gems are placed preparatory to the second operation of the process. Fig. 3 is an elevation of a pair of nippers used to grasp the stone under treatment and take from one operating-table to another. Fig. 4 is an elevation of a fork used for pulling or pushing the stone off the end of the coating-stick and depositing it on the operating-table. Fig. 5 is an elevation of a pair of nippers used to hold the stone after the reflective coating shall have been finished and while the front face of the said stone is being refinished or burnished. Fig. 6 is an elevation of a stick, slab, or table upon which the stones or gems are placed to receive the outside coating of bronze, gilt, varnish, or other substance that is to cover the reflective substance with which the back face of the stone or gem is to be covered.

The piece A, which is to be treated, may be any real or imitation precious stone or gem, composition of glass or paste, and the front face of it may be cut into any polygonous or desired shape, and the rear face of it may be a full or truncated cone, or made in any other desired shape, and either the whole or a part of the rear face of this piece A will be coated with some highly-reflective substance, so as to reflect through the stone or gem and thereby enhance the brilliancy of the same, and then the outside of the reflective substance will be coated with some protective substance, such as bronze, gilt, varnish, or such other like protective substance, substantially as described in said Patents Nos. 223,237 and 229,328, both granted to myself.

The process of applying the said coatings or of treating the said pieces A, whether they be real or imitation precious stones, composition of glass, paste, or any other suitable material, will be as follows: In the first place the operator will place upon one end of the treating-stick B some suitable wax or other device like a suction india-rubber plate or disk, so that the stone or piece A may be attached to the said stick B by adhesion or atmospheric pressure, as shown in Fig. 1. The operator will then dip the piece A into a solution of wax or some other substance that will coat the front face of the said piece A as far as the gem or stone is intended to show when finished, and this dividing-line between the exposed or finished surface of the stone and the covered or unfinished portion of the same will ordinarily be the arras that divides the front face from the rear face of the stone, though, if desired, this dividing-line may be placed to the rearward of the said arras-line; but wherever this dividing-line may be chosen the operator can see distinctly how far to dip the piece A into the protecting compound or coating material, so as to touch the said line in all its parts when the piece A is stuck to the treating-stick B, as shown in Fig. 1, and the operator can easily see by this means on all sides of the stone A, thereby enabling him to perform with accuracy this important and delicate part of the process; and as this part of the process requires great skill and accuracy the method shown and hereinafter described becomes of very great importance.

After the operator shall have coated the

front or exposed face of the piece A, as above described, so as to prevent the adhesion thereto of the reflective substance which is next to be applied, he will take the fork E, (shown in Fig. 4,) and with it detach the piece A from the stick B and set it down upon the table C, (shown in Fig. 2,) and this table may be smooth on top or indented with small pockets to set the stones into, thereby affording them more stability during the silvering or coating with the reflective substance, which is to be next in order in this process. The top of this table may be covered with some cement or wax to hold the pieces A in place thereon.

The silvering or reflective coating which is to be applied to the rear part of the stone may be a solution of nitrate of silver, cold or hot, or any other material that will produce the reflective quality desired and that will adhere to the piece A with sufficient tenacity. This reflective coating will be applied to the stones A while they rest upon the slab or table C, and this coating will cover all parts of the said stone that were not covered or protected by the waxing or other coating applied while the piece was on the coating-stick B, above described, and the reflective coating applied to the back of the piece A will be fixed by heat from the table C or otherwise. After the pieces A shall have been coated with the reflective material I place them, with the tweezers D, upon a stick, plate, or table, G, (shown in Fig. 5,) and to this plate or table they will adhere as to the table C, and the part which is covered with the reflective material is then covered with a fixing or protecting coating, formed of bronze or gilt paint, or varnish, or other substance which shall secure the reflective coating from external injury.

After this last-named part of the process shall have been completed, a pair of finishing-tweezers, F, (shown in Fig. 4,) will grasp the piece A, and the operator can thereby hold up the said piece A, so as to brush off with a suitable brush or rag all of the front protective coating that was first put upon the stone. While held in these tweezers the stone A can be finished, burnished, or polished, so as to fit it for the market.

The tweezers D and F may be made of metal, with their working-jaws faced with wood, felt, or leather; but I prefer to make them wholly of wood, and may or may not face their jaws with other soft substance, like felt, leather, or such other like material. The tweezers F should have a central pivot, *f*, a top guide, *f'*, and a straining-band, f^2, of india-rubber, surrounding both jaws, so as to draw them together upon the stone A with a uniform pressure sufficient to hold, but not to injure, the piece A while being finished.

Having described my invention, I claim—

1. The process herein described of coating real or imitation precious stones, composition of glass or paste, by attaching the said stone A to the end of a coating-stick, B, by some suitable means of adhesion, and then, while so attached, dipping the said stone into a solution of wax or other protective substance, to coat the front face of the stone to a well-defined and uniform line, which when the stone is finished is to form the dividing-line between the reflective substance and the finished part of the stone.

2. The combined process herein described of treating the front face of the stone A by means of the coating-stick B, then silvering the rear of the stone on table C, then finishing the reflective back on the stick or table G, and, lastly, finishing the front of stone while it is held in the tweezers F.

FRANCIS ED MEYER.

Witnesses:
J. B. THURSTON,
WM. H. BROWN.