(No Model.)

EDWARD & ERNEST LOESSER.

DIAMOND POLISHING DOP.

No. 573,672. Patented Dec. 22, 1896.

Fig: 1.

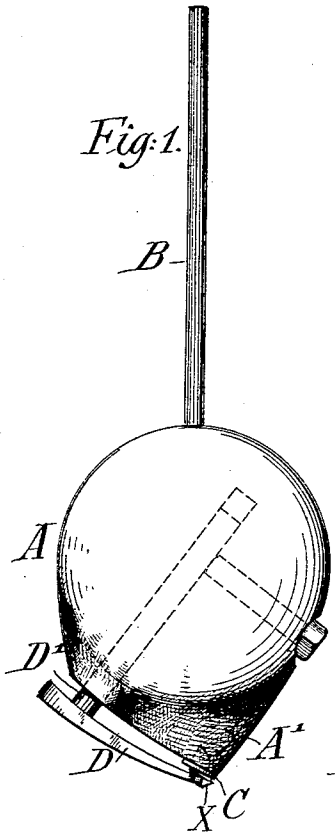


Fig: 2.

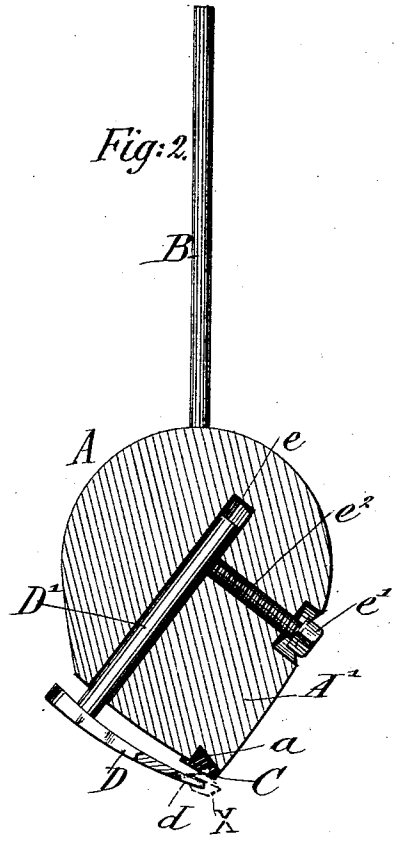


Fig: 6.

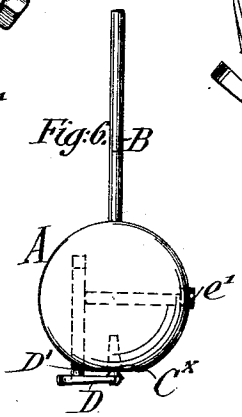


Fig: 3.

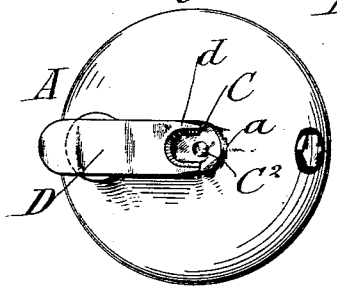


Fig: 7.

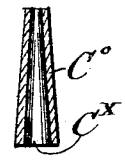


Fig: 4.

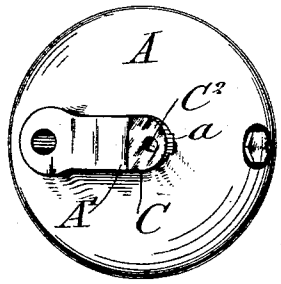
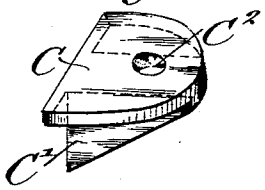


Fig: 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

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DIAMOND-POLISHING DOP.

SPECIFICATION forming part of Letters Patent No. 573,672, dated December 22, 1896.

Application filed July 24, 1896. Serial No. 600,429. (No model.)

To all whom it may concern:

Be it known that we, EDWARD LOESSER and ERNEST LOESSER, citizens of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Diamond-Polishing Dops, of which the following is a specification.

This invention relates to a dop for diamond-polishing tools, and the object of the invention is to provide a dop in which the diamond can be readily and quickly adjusted for polishing off the facets, table, or culet.

In the accompanying drawings, Figure 1 is a side elevation of our improved diamond-polishing dop. Fig. 2 is a longitudinal section thereof, partly broken. Fig. 3 is an end elevation of the dop. Fig. 4 is a similar elevation with the holding-finger removed. Fig. 5 is a detached perspective view of one of the removable shoes or seat portions. Fig. 6 is a side elevation of a dop in accordance with our invention modified so that it is adapted to the polishing off of the tables or culets, which are, as is known, arranged at right angles to the axis of the diamond; and Fig. 7 is a sectional view of a modification of the shoe or seat.

Referring to the drawings, A indicates the head of the dop, which may be of suitable material, such as brass, and B indicates the shank of the dop, which is to be inserted into the diamond-polishing tool. The dop shown in Figs. 1 to 4, inclusive, has a fin A′, the edge of which is inclined and is provided with a recess *a* of suitable conformation so as to receive the corresponding lug or flange C′ of a removable shoe C, which is provided with a cavity C^2. (See particularly Fig. 5.) The inclination of the fin causes the shoe C to be inclined, and the inclination of the shoe depends upon the inclination of the facets which are to be polished off.

The shoe C may be secured in position by means of a suitable fastening, but it is preferably arranged loosely in the recess *a* of the head of the dop, inasmuch as said shoe is retained in position by means of a holding-finger D in connection with the diamond X retained thereby. This holding-finger D is provided at its outer end with a fork or bifurcation *d* for receiving and fitting upon the diamond or other precious stone, and at its other end with a shank D′, which is arranged at right angles to the finger. The shank D′ of the finger is inserted in a bore *e* in the head of the dop, and is secured and retained adjustably therein by means of a set-screw *e′*, screwed into a correspondingly screw-threaded bore e^2 at right angles to the bore *e*, so that when the diamond is arranged in proper position the set-screw *e′* will firmly engage the shank D′ of the holding-finger D, and the diamond will be retained through the medium of the bifurcated end *d* of the finger and the cavity in the shoe C, whereby said shoe is firmly retained in position, and the diamond is securely retained by three points of contact, respectively, the two bifurcations of the bifurcated end *d* of the finger and the seat or cavity C^2.

The form of dop described is for the purpose of polishing off the facets, and for that reason the seat against which the diamond is held is arranged on an incline, so that the facet of the diamond which is being polished off will be at right angles to the axis of the dop. When one facet has been properly polished off, it is a question of only a moment's time to loosen the set-screw *e′* by means of a suitable key, raise the finger D, and adjust the diamond X by turning it until the next facet is exposed, when the finger is again set against the diamond by means of the screw *e′*, and the polishing proceeds in the usual manner, the diamond-polisher determining the angle and amount of polishing required by the eye. It is evident that this quick adjustment and set of the diamond is of the utmost importance to the diamond-polisher, as it saves a great amount of time and labor, and, furthermore, furnishes a perfectly safe and secure attachment of the diamond to the dop, and, besides, the diamond is more clearly exposed to view than when cemented to the dop in the usual manner.

For polishing off the table and culets of the diamond, which are at right angles to the axis of the same, the seat C^2 for the diamond must be arranged at right angles to the axis of the dop, as shown in Fig. 6, and not at an

incline thereto, as when the tool is to be used for polishing off the facets. In this case the shank D′ of the holding-finger is inserted in a bore of the dop which is parallel with the shank B thereof, while the set-screw *e′* extends into a bore arranged at right angles to the shank B of the dop.

For accommodating diamonds of different sizes the shoes C, provided with the seats C^2, are removable and interchangeable, each being provided with a cavity or seat C^2 of different size from the others. Ordinarily the holding-finger is of sufficient dimensions, but different sizes of these may also be provided.

The flange C′ of the shoe C is preferably angular in shape and rests at its inner end against the inner end of the recess, which forms an abutment operating in connection with the inner face of the shoe itself against the body of the head and the pressure of the holding-finger D through the diamond to hold the shoe firmly in place, and yet it is freely removable when the diamond is taken out.

Instead of the shoe C a conical hollow plug C^0, having a cavity or seat $C^\times$, may be inserted in a corresponding socket in the head of the dop.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A diamond-polishing dop, comprising a head, means for applying the same to a diamond-polishing tool, a holding-finger provided with a recessed end by which it is secured against a point of contact on the head of the dop, and means for securing and adjusting the holding-finger, substantially as set forth.

2. A diamond-polishing dop, comprising a head provided with an inclined seat and having means for applying it to a diamond-polishing tool, a bifurcated holding-finger adapted, in connection with said seat, to establish three points of contact with the diamond, and means for securing and adjusting the holding-finger, substantially as set forth.

3. A diamond-polishing dop, comprising a head having a recess and provided with means for application to a diamond-polishing tool, a removable shoe having a flange fitting said recess and provided with a cavity, and means for engaging the diamond and holding the same in the cavity of said shoe.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

EDWARD LOESSER.
ERNEST LOESSER.

Witnesses:
GEO. L. WHEELOCK,
GEO. W. JAEKEL.