No. 709,229. Patented Sept. 16, 1902.

E. MAHY.

DIAMOND CUTTING TOOL.

(Application filed Apr. 26, 1902.)

(No Model.)

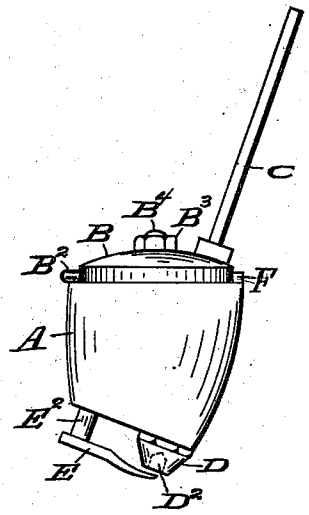


Fig. 1.

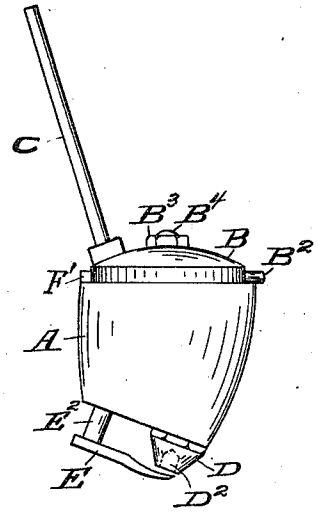


Fig. 2.

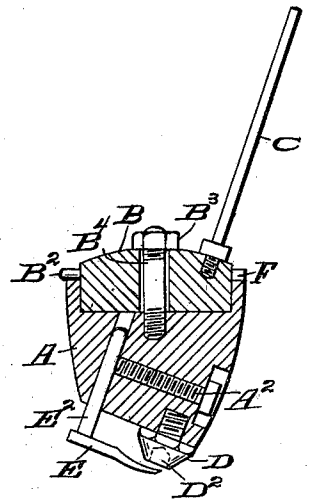


Fig. 3.

Fig. 4.



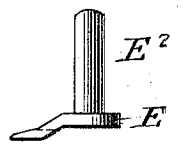


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

EUGENE MAHY, OF CINCINNATI, OHIO.

DIAMOND-CUTTING TOOL.

SPECIFICATION forming part of Letters Patent No. 709,229, dated September 16, 1902.

Application filed April 26, 1902. Serial No. 104,757. (No model.)

To all whom it may concern:

Be it known that I, EUGENE MAHY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Diamond-Cutting Tool, of which the following is a specification.

My invention relates to that instrument or tool known as the "dop" used in connection with an ordinary diamond-cutting machine to hold the diamond against the wheel; and the objects of my invention are to provide a dop which may be so adjusted as to bring the diamond into the proper relative positions to the wheel for cutting the table and facets thereon and at the same time to preserve that firmness or solidity which is necessary in machinery of this character and also to provide a convenient means of inserting and removing the stone-holder from the dop. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view of the dop so adjusted as to cut the top surface or table of the diamond. Fig. 2 is a view of the dop adjusted at the angle for cutting the facets, and Fig. 3 is a vertical sectional view of the dop adjusted as in Fig. 1. Figs. 4 and 5 illustrate the clamp E and its shank E^2 as shown in the first three figures, Fig. 4 being a horizontal top view thereof and Fig. 5 being a vertical view of the same.

The body of the dop A is of solid brass or of other suitable material, the upper portion thereof being cylindrical in shape, tapering below, the lower surface or plane being at an oblique angle to the axis thereof, and is provided with the stone-holder D, into which the gem to be cut is placed at its opening D^2. The stone-holder D is screwed into the body of the dop A and at right angles to the lower surface thereof. The clamp E is a two-tined fork or prong, the shank E^2 of which when in place is inserted into an opening in the body of the dop at right angles to the lower surface thereof and when so inserted may be made fast by the set-screw A^2, the prong E holding and supporting the stone in the opening D^2 rigidly. The upper portion of the body A of the dop is hollowed out so as to form a cylindrical socket, in the center of which, parallel to the axis thereof, is fixed the pivot B^4. The disk B is drilled through the center with a hole the diameter of the pivot B^4 and fits into said socket, the pivot B^4 being the bearing thereof. The nut B^3 serves to make the disk B fast in its place. The rim of the said socket at the point F opposite to the diamond-holder D and the point F′ opposite to the center of the shank E^2 is cut down at right angles, making an offset at said points equal to the thickness of the pin B^2, so that the rim of the socket upon that half of the circumference in the background and not shown in the drawings is higher than that portion thereof shown in the foreground. The pin B^2 projects from the disk B at a point opposite that at which the stem C is fastened. The stem C is fastened to the disk, so that when the pin B^2 is at the point F′ the said stem C is parallel to the threaded portion of the diamond-holder D and at right angles to the lower surface of the body of the dop A, and when the pin B^2 is at the point F the stem C is at about the standard angle of thirty-six degrees to the lower surface of the dop.

The method of operation of this tool is as follows: The diamond being placed in the holder D and made fast by the clamp E, the stem C of the tool being held by the arm of the ordinary diamond-cutting machine, the pin B^2 being at the point F′, the stone is brought into the direct contact with the horizontally-revolving wheel ordinarily used for diamond-cutting. After cutting the table or culet the nut B^3 may be loosened and the disk B revolved until the pin B^2 is in contact with the offset in the rim at the point F, thus altering the relative position of the stone to the wheel and giving the angle (about thirty-six degrees) necessary for cutting the facets. The diamond-holder D being screwed into said dop gives it greater security and adjustability.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A diamond-cutter's dop having a circular recess or socket in the upper portion thereof, a rotatory disk within said socket carrying at a point other than its center the stem of said dop, substantially as set forth.

2. A diamond-cutter's dop having a circular recess or socket in the upper portion there-

of, a rotatory disk within said socket carrying at a point other than its center the stem of said dop and means for securing said disk in place, substantially as set forth.

3. In a diamond-cutter's dop the combination of a socket in the upper portion thereof, a pivot fixed in the center of said socket parallel to the axis thereof, a disk or wheel revolving thereon carrying the stem of said dop, offsets diametrically opposite in the rim of said socket and a pin protruding from the circumference of said disk, substantially as set forth.

4. In a diamond-cutter's dop the combination of a socket in the upper portion thereof, a pivot fixed in the center of said socket parallel to the axis thereof, a disk or wheel revolving thereon carrying the stem of said dop, offsets diametrically opposite in the rim of said socket and a pin protruding from the circumference of said disk, and a diamond-holder fixed to said dop by being screwed therein, substantially as set forth.

EUGENE MAHY.

In presence of—
JOHN WELD PECK,
WM. H. SCHMIDT.