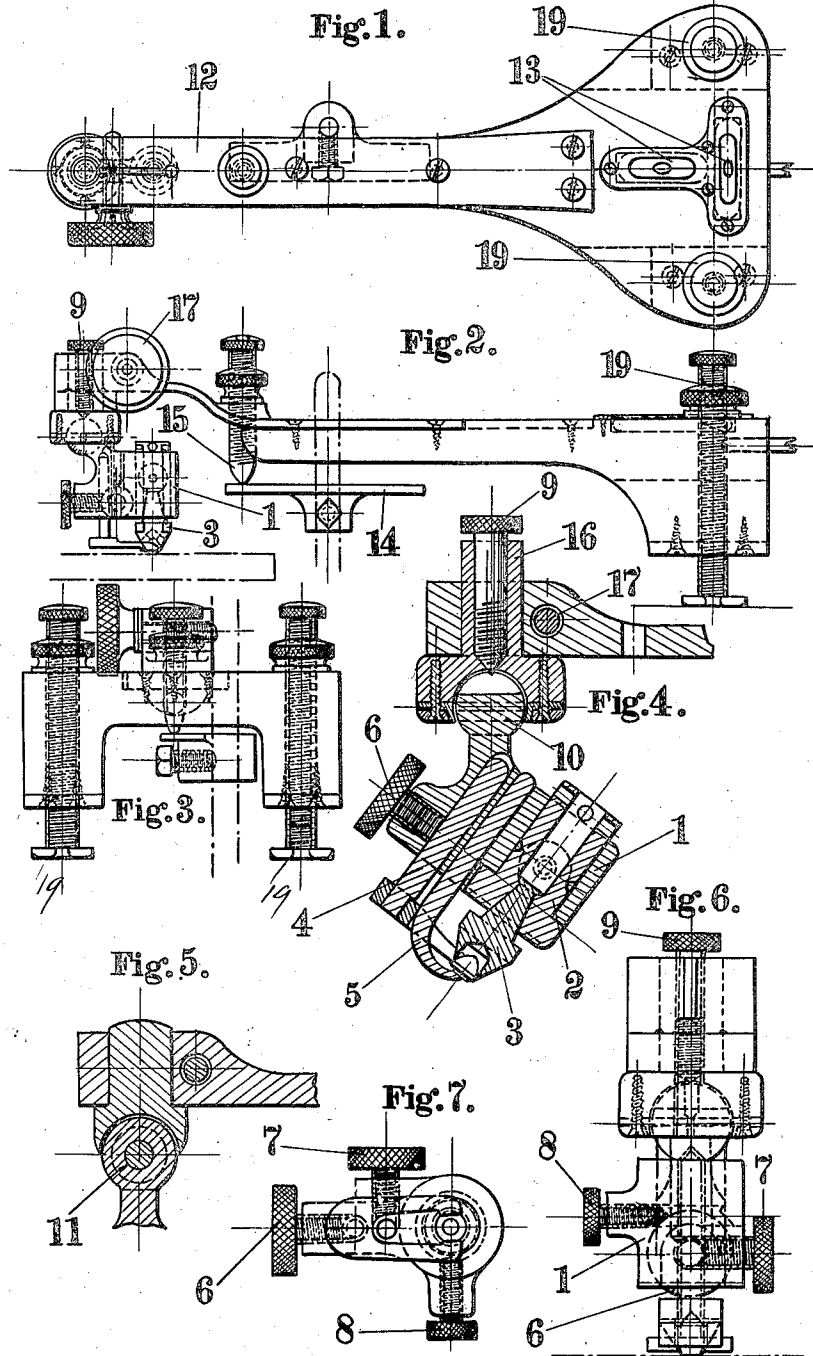


E. SOETENS.
MECHANICAL DOP FOR POLISHING (CUTTING) DIAMONDS.
APPLICATION FILED JUNE 12, 1913.

1,103,698.

Patented July 14, 1914



Witnesses:
W. J. P. P. P.
W. J. P. P.

Inventor
Edgard Soetens
per *J. J. J.*
Attorney

UNITED STATES PATENT OFFICE.

EDGARD SOETENS, OF BORGERHOUT-ANTWERP, BELGIUM.

MECHANICAL DOP FOR POLISHING (CUTTING) DIAMONDS.

1,103,698.

Specification of Letters Patent.

Patented July 14, 1914.

Application filed June 12, 1913. Serial No. 773,340.

To all whom it may concern:

Be it known that I, EDGARD SOETENS, mechanician, a subject of the King of the Belgians, and resident of 14 Rue Kistemaekers, Borgerhout-Antwerp, Belgium, have invented a certain new and useful Mechanical Dop for Polishing (Cutting) Diamonds, of which the following is a specification.

My invention relates to a mechanical dop for cutting diamonds.

The object of the said invention is to cut the facets with the greatest possible precision and also to divide the facets, to obtain with great facility the angle of their position and slope by means of indications upon the dop itself.

I illustrate my device by the annexed drawing, viz:

Figure 1 is a plan view of the tongs and the dop. Fig. 2 is a side view of the tongs the mechanical dop in position for cutting the table or collet. Fig. 3 is a rear end view of the tongs. Fig. 4 is a cross section of the dop mounted on a swivel. Fig. 5 is a cross section of the dop mounted on hinges instead of on a swivel as in Fig. 4. Fig. 6 is a face view of the dop. Fig. 7 is a back view of the dop.

The mechanical dop with holder as shown in the drawing is applied to the ordinary mills. The dop consists of a main body in the hollow of which is placed a rotary cylinder (2). This cylinder carries the small dop (3) in which the stone to be cut is placed. The extreme point of the small dop (3) which is in the cylinder is carried so as to be firmly fixed, at the same time this small dop may be turned in the cylinder at will by means of a key or pincers if necessary.

To hold the stone in the small dop (3) two hooks or pincers are used; a forked hook (4) and a fixing hook (5). These two hooks are placed one behind the other. The forked hook (4) holds the stone on two of its sloping sides (above the edge) while it is being cut. The fixing hook presses the table or collet and holds the stone rigid while the cylinder turns. The forked hook and fixing hook are fixed respectively by the screws (6) and (7). Cylinder (2) bears upon its visible part different divisions which are regulated by a small dent made in the extremity of the main part of the cylinder.

The divisions upon the cylinder made by

vertical lines correspond with the several 51 facets to be cut on the stones, viz—Eight long lines equidistant from each other and by which the eight corners are cut. Eight shorter lines placed in the middle of the preceding eight lines and by which the star 60 facets are cut. Sixteen still smaller lines in the middle of the immediately preceding lines by which the half facets are cut.

Screws (8) serve to fix the cylinder. The dop is attached to the holder (12) by means 65 of a swivel Fig. 4, or by a hinge (11) carried by a small tube made to fit an opening in the holder (12). The end of the holder is fashioned so the small tube may be fixed by a screw (17) in the tongs or tweezer. At 70 the wide, rear extremity of the tongs, Fig. 1, are placed two levels (13) and two screws (19) by means of which the tong may be set perfectly horizontally on the mill.

When the holder is horizontally fixed, the 75 small tube falls perpendicularly upon the mill, as the latter is also level.

When the surface of the stone, upon which a certain facet is to be cut, touches the disk at the exact spot with the proper angle of 80 incline obtained by the movable joints (10) or (11) the dop may be turned to right or to left in order to find the grain of the stone without changing the angle of the incline of the facet. Thus no matter how the dop 85 is turned in the tongs, the same facet always touches the mill with the same angle of incline.

To turn the dop in the holder one has only to unscrew the screw (17). To regulate the 90 size of the facet the holder is provided with a regulating screw (15). For instance, when the first corner has reached the desired size, screw (15) is turned until it comes against the bridge (14) on a level with the 95 mill. Screw (15) may then be prevented from turning by a counter-bolt, when screw (15) by the cutting of the following corners comes against the bridge, the dop can fall no farther and the other corners can be no larger 100 than the first. The same follows for the star facets and half-facets.

What I claim and desire to secure by Letters Patent of the United States is:

An adjustable dop comprising a cylindrical 105 carrier, a support therefor in which said carrier is rotatable about its axis of symmetry, tongs, and adjusting member carried by

said tongs, a ball and socket joint between
said support and said member, the ball of
said joint forming a part of said support,
and having in the apex thereof a guiding
5 slit in the main plane of oscillation thereof
a set screw carried by said member, the
pointed end of which coöperates with said
slit to guide the movement of said support

and means for adjustably securing said
member in said tongs.

In witness whereof I have hereunto set
my hand in the presence of two witnesses. 10

EDGARD SOETENS.

Witnesses:

J. Jos. ROSENHAMEL,
G. DEHERSY.