(No Model.)

I. GRASSET.

DEVICE FOR POLISHING PRECIOUS STONES.

No. 494,715. Patented Apr. 4, 1893.

Fig. 3.

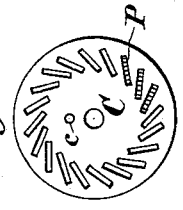


Fig. 4.

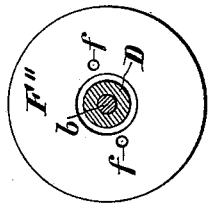


Fig. 2.

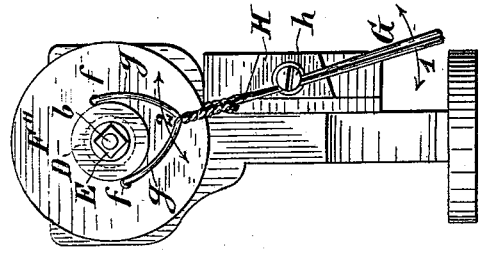


Fig. 1.

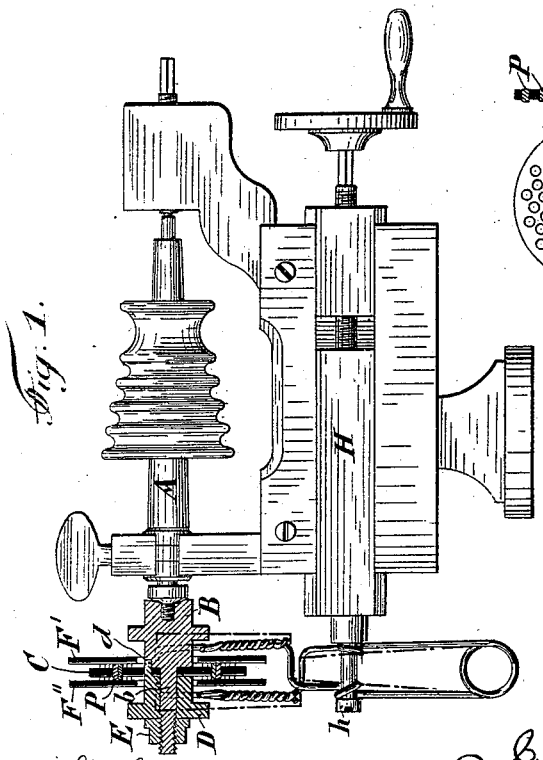
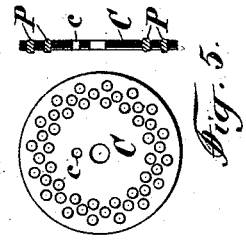


Fig. 5.



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UNITED STATES PATENT OFFICE.

ISAAC GRASSET, OF GENEVA, SWITZERLAND.

DEVICE FOR POLISHING PRECIOUS STONES.

SPECIFICATION forming part of Letters Patent No. 494,715, dated April 4, 1893.

Application filed November 10, 1892. Serial No. 451,487. (No model.) Patented in Switzerland April 9, 1892, No. 4,873.

To all whom it may concern:

Be it known that I, ISAAC GRASSET, lapidary, of Geneva, Switzerland, have invented a new and useful Device for Polishing Precious Stones, (for which Letters Patent have been granted in Switzerland, dated April 9, 1892, No. 4,873,) of which the following is a specification.

The invention consists of an improved device for lapidaries and especially of those tools of lapidaries intended to polish the lever-stones of anchor-escapements for watches or other stones for watches or jewels.

The characteristic feature of the invention is that my device for polishing stones is disposed so as to polish the two parallel faces of each stone at a time and thus do double the work which the old devices did in a given space of time. The two faces are moreover polished in planes perfectly parallel to one another which was not generally the case by means of the tools or devices used till now for the said purpose.

In the accompanying drawings Figure 1 is a front elevation, part in section of a lathe provided with my improved device. Fig. 2 is an end-view of Fig. 1. Fig. 3 shows separately and in plan-view the disk to which the stones which are to be polished are fixed. Fig. 4 shows separately and in plan view one of the polishing disks. Fig. 5 shows a plan view and a section of a disk disposed so as to bear stones of variable form intended to be polished on two faces.

In all the figures the same letters refer to the same parts.

A is the axis of the lathe, bearing a mandrel B the cylindrical projection *b* of which forms a prolongation of the axis of the lathe. A disk C traversed in its center by the rod *b* is firmly pinched between said mandrel B and a second mandrel D by means of a screw-nut E screwed on a thread of the rod *b*. The mandrel D is provided with an eccentric pin or projection *d* which traverses an eccentric hole or depression of the mandrel B so as to have those three parts always rotating with one another when the axis A is rotated.

The disk C is provided with series of outcuts or holes formed as shown in Fig. 3, or as shown in Fig. 5 or of an other suitable form whatever and the stones P which are to be polished on two of their faces, are fixed into the said outcuts or holes by means of gum-lake or its equivalent so as to have their ends projecting approximately as much on the one face of the disk as on the other face. The disk C is made of the thickness to which the stones are to be reduced by polishing, between the two parallel faces.

F′ and F″ are polishing-disks placed in front of each face of the disk C and provided with a central hole of larger diameter than the outer diameter of the mandrels B and D. There is further provided a fork G which is formed and disposed so as to press the two polishing disks F′ and F″ against the stones fixed to the rotary disk C, and to prevent their being rotated by their friction against the said stones. Said fork G is pivoted at *h* to the adjustable slide H of the lathe. The fork G is formed like a pinch having two arms *g g* the hooked ends of which engage suitable holes *f f* of the disks F′ and F″ respectively. The two arms of the piece G are connected with one another by any suitable spring which will preferably be made of one piece with them, as shown in the drawings. The central holes of the disks F′ and F″ being large enough for that purpose the latter may be oscillated as shown by the arrow 2 in Fig. 2 by oscillating the lower end of the piece G as shown by an arrow 1 in said Fig. 2. This being done while the axis of the lathe bearing the disk C is rotated, the stones fixed to said disk C are polished on two parallel faces at a time to a predetermined thickness.

Having thus fully described my invention, I claim—

1. The combination in an apparatus for polishing stones, of a disk having holes or mortises to receive the stones to be polished, mechanism for revolving such disk, two polishing plates parallel to each other and between which the stone carrying disk is revolved and means for pressing the polishing plates upon the stones, substantially as specified.

2. In lapidary-devices or tools for polishing stones on two parallel faces, the combination

of a rotary disk C, having holes or mortises in which are fixed the stones which are to be polished, with two polishing disks or plates F′ F″ and with a spring fork G pressing the said polishing disks F′ F″ against the stones projecting from the faces of the disk C substantially as and for the purpose specified.

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

ISAAC GRASSET.

Witnesses:
ELMER SCHNEIDER,
OTTO MAY.