G. SISSON.

Swage for Forming Jeweller's Dies.

No. 202,597. Patented April 16, 1878.

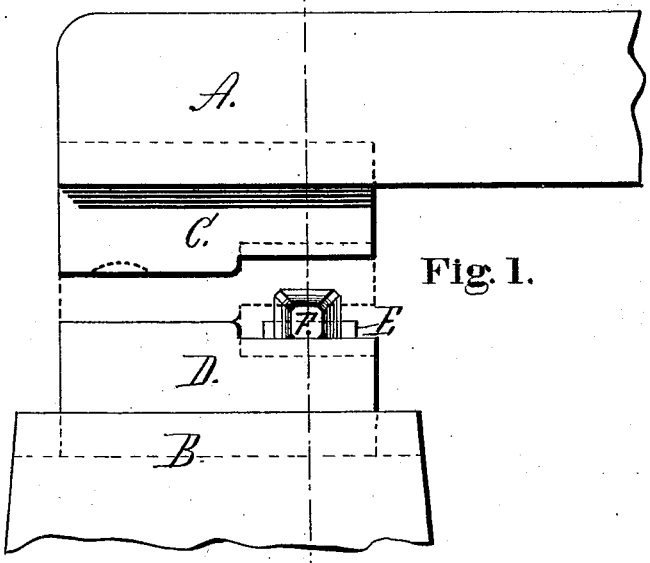


Fig. 1.

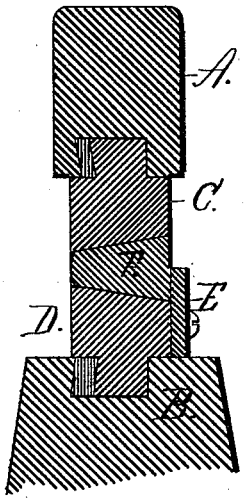


Fig. 2.

Fig. 3.

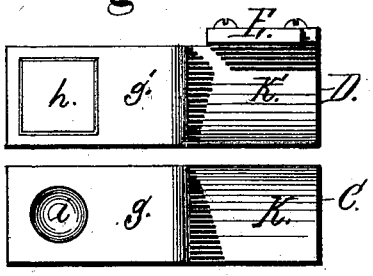
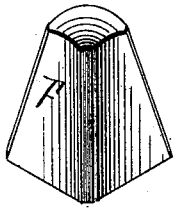


Fig. 4.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GILBERT SISSON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN SWAGES FOR FORMING JEWELERS' DIES.

Specification forming part of Letters Patent No. **202,597**, dated April 16, 1878; application filed October 4, 1877.

To all whom it may concern:

Be it known that I, GILBERT SISSON, of the city and county of Providence, State of Rhode Island, have invented new and useful Improvements in Swages for Forging Dies; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in swages for forging the peculiar pyramidical dies used by jewelers, silversmiths, and others, in which a square base, with broken corners, tapers at a given fixed angle toward a point, which point or central axis must be a line perpendicular to the center of the base. Such dies are made of various sizes; but in all the sizes the base is of the same angle with the sides—that is to say, all the dies used form truncated pyramids the sides of which slope inward at a fixed ratio, the base being at right angles to the central axis.

The invention consists in providing the swage-blocks with faces, the angle of which is the desired angle of the die, and with a base-block, the face of which is at such an angle with the face of the swage-blocks as will produce the base of the die; and, further, in providing the swage-blocks with a flat space for upsetting the die, and also a recessed space for receiving the bottom of the die, and a concaved header for welding the steel point to the die, so that all or nearly all the forging can be successively done with the same set of swages in the same power-hammer.

Figure 1 is a side view of the swages, shown as secured to a power-hammer, and a die is shown laid between the swages. Fig. 2 is a cross-section through the hammer-head, the upper swage, the die, the lower swage, and the anvil. Fig. 3 is a view of the faces of the two swages. Fig. 4 is a perspective view of a jeweler's and silversmith's die.

A represents the hammer-head of a power-hammer. B is the anvil. C is the upper swage secured to the hammer-head. D is the lower swage secured to the anvil. E is the base-block secured to the lower swage, arranged to form the proper angle of the base with the sides of the dies. F represents the finished die. *g g'* are the square spaces on the swages for upsetting the die. *h* is the recessed seat for the base of the die, and *i* the cupped recess for forming the rounded top of the die. K K' are the angular faces for forging the sides of the dies.

The operation of forging the dies is as follows: A suitable piece of iron, being properly heated, is placed between the swages C and D, and turned from side to side, the end resting against the block E. The iron is thereby forced to assume the pyramidical form of the die F, and as the base rests against the block E, the stroke of the hammer forces the same into the angle formed by the angular faces K K' and block E, and thus the forming of the die proceeds. From time to time the die must be upset, and for this purpose it is placed vertically on the square face *g'* of the swage D, and the face *g* of the swage C allowed to strike the same.

Most dies have to be faced with steel. The lower portion is, therefore, reheated, having been partly split to receive the steel, and the heated iron and steel are joined at a welding heat, and united by placing the same, either at *g'* or *h*, on the lower block, the cavity *i* in the upper swage-block finishing the upper end of the die.

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

The upper swage-block C, having the beveled face K, face *g*, and cup *i*, in combination with the lower swage-block D, having beveled face K' and face *g'*, to correspond with K and *g* of the block C, and a recessed seat, *h*, to correspond with cup *i*, and the removable and adjustable base-block E, all constructed as and for the purpose described.

GILBERT SISSON.

Witnesses:

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