O. S. Parmenter,

Rose Engine.

No. 47,853. Patented May 23, 1865.

Fig: 1.

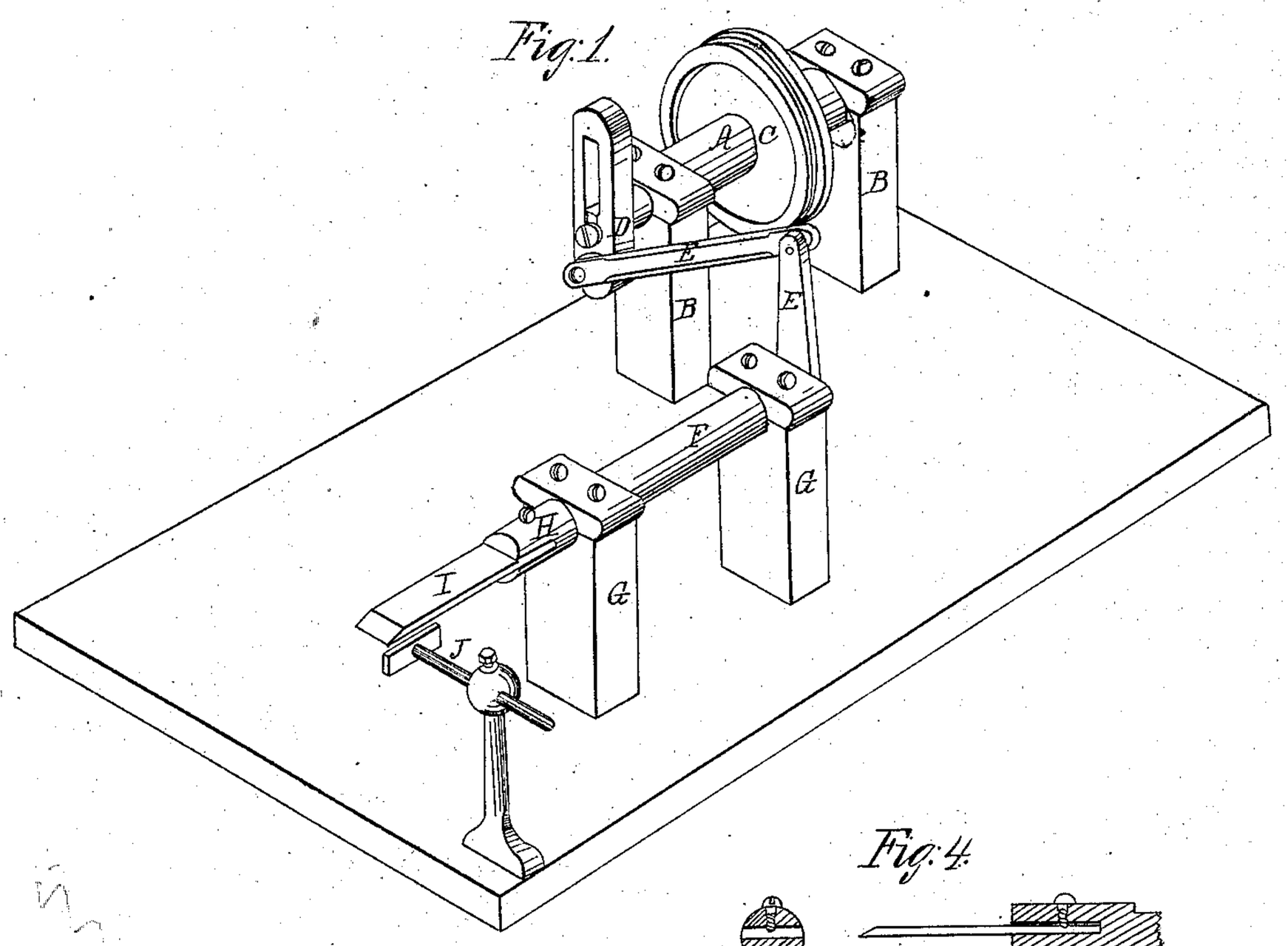


Fig: 4.

Fig: 3.

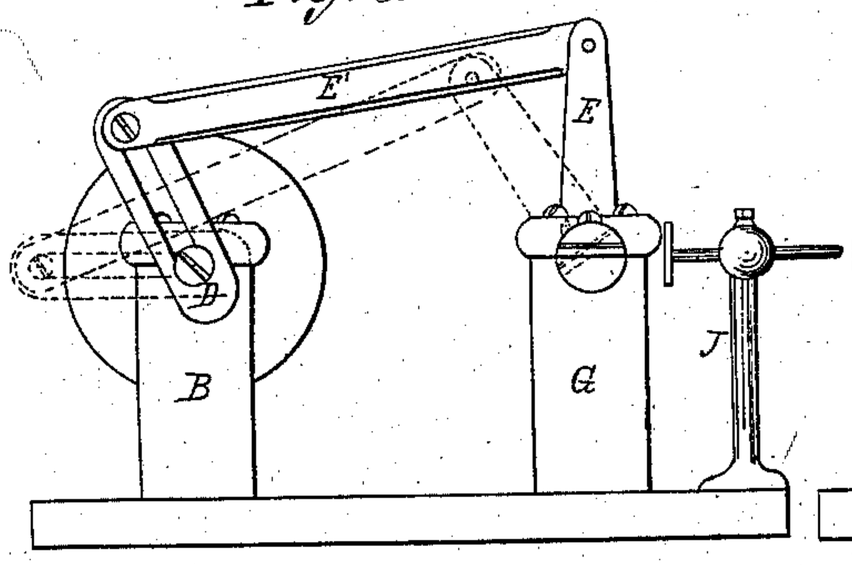
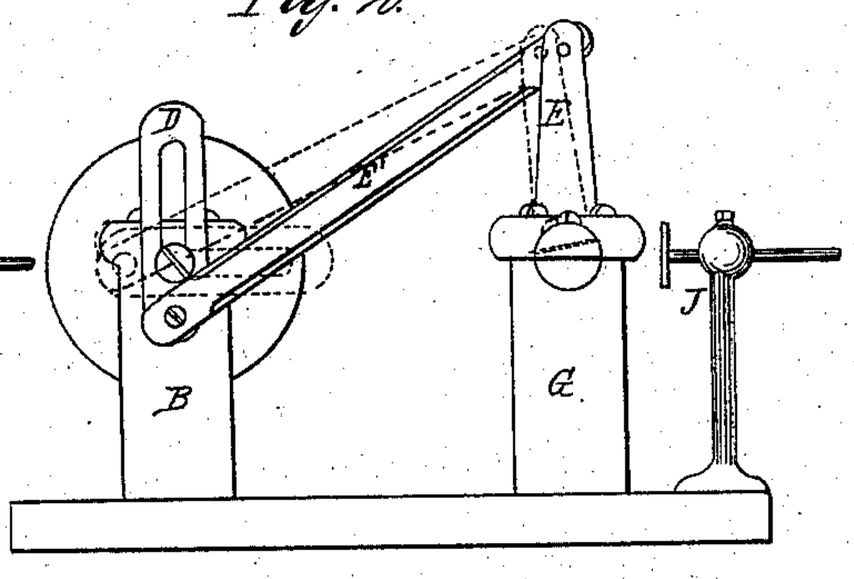


Fig: 2.



Witnesses:
H. B. Vincent
J. D. Thurston

Inventor:
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UNITED STATES PATENT OFFICE.

ORANGE S. PARMENTER, OF PROVIDENCE, RHODE ISLAND.

IMPROVED MACHINE FOR ORNAMENTING JEWELRY, PLATE, &c.

Specification forming part of Letters Patent No. **47,853**, dated May 23, 1865.

To all whom it may concern:

Be it known that I, ORANGE S. PARMENTER, of the city and county of Providence, in the State of Rhode Island, have invented a new and useful Machine for Ornamenting Jewelry, Plate, and similar articles; and I do hereby declare that the following specification, taken in connection with the drawings, making a part of the same, is a full, clear, and exact description thereof.

Fig. 1 is a view of the machine in perspective. Figs. 2, 3, and 4 are detailed parts, to be referred to hereinafter.

The art of the engraver is inseparably connected with that of the manufacturing jeweler. It is upon the former that reliance is had for the effects of light and shade, which in the best, as well as the cheapest, articles of manufacture of this class are relied upon to give an attractive finish to plain surfaces.

One of the branches of the engraver's trade is technically called "frosting," and consists in cutting upon a plain surface, with the edge of a graver, which may be varied in shape so as to exhibit different effects, a combination of lines of the length of the cutting-edge of the tool alternately connected at the ends and making greater or less angles with each other, as desired.

This class of engraving is much used for making ornamental borders for the larger articles of jewelry, for which it is suitable—as, for instance, the buckles for ladies' waist-belts—and is also much used for filling up the spaces within the outlines of engraved figures or designs in many varieties of manufactures of metals. Heretofore this work has been done exclusively by hand-labor, and is effected by imparting a peculiar wriggling motion to the graver as it is by the force of the arm carried along the surface of the article to be engraved. The operation is necessarily a tedious and wearying one, involving a great strain, particularly upon the muscles of the fore-arm and side and upon the cords of the wrist.

The purpose of my machine is to accomplish the same result which is now performed by hand, and without the exercise of any greater manual labor than that necessary to press the piece to be frosted against the graver, and move the same along as the tool performs its work.

In the accompanying drawings, A is a shaft, which is mounted in bearings in suitable standards B B. Upon this shaft is a driving pulley, C, and upon one end, which extends beyond the bearings, is the crank, D. This crank should be slotted, as shown, or by some equivalent means arranged so that a greater or less arc of vibration will be given to the arm E of the rocker-shaft F, with which, by the shackle-bar E′, it is connected.

Figs. 2 and 3 are figures showing the maximum and minimum arcs which will be described by the end of the arm E when the crank D is adjusted, in the one case for its greatest, and in the other for its least, amount of throw. The shaft F is also mounted in suitable bearings upon standards G G.

Upon the extremity opposite to that on which the arm E is fixed is a suitable socket, H, or holder for the graver I.

It is obvious that inasmuch as the arm E is longer than the crank D, a vibratory motion will be imparted to it and the shaft F and the graver I as the crank revolves, and which extent of vibration can be regulated, as above described. The motion so obtained is the one which, by the action of the wrist, is given to the tool when held in the hand; but in order that the effects shall be the same, it is essentially necessary that the socket or tool-holder H should be so arranged that when the graver is adjusted in place the line of the cutting-edge of the graver shall be in a plane through the axis of the shaft F, as shown in Fig. 4; otherwise the graver will be scraped over the surface of the metal, and blur instead of sharply cutting it.

The work to be engraved is placed upon a holding-block and is held by the operator up to the graver and guided in the direction which it is desired the tool shall cut.

J represents a convenient form of holder and guide to be used when straight borders are to be engraved, and various other forms of guides for engraving upon curved lines can be readily imagined; but, except for straight borders, which it is desired to have at a uni-

form distance from the edge, a guide is of little value, as reliance must be had from the infinite number of directions in which in practice the work must be moved upon the skill of the operator.

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

The machine for ornamental engraving, constructed and operating in the manner and on the principle substantially as described.

ORANGE S. PARMENTER.

Witnesses:
W. B. VINCENT,
J. D. THURSTON.