C. CROW.

Trammel for Ellipses.

No. 53,524. Patented March 27, 1866.

Fig. 1

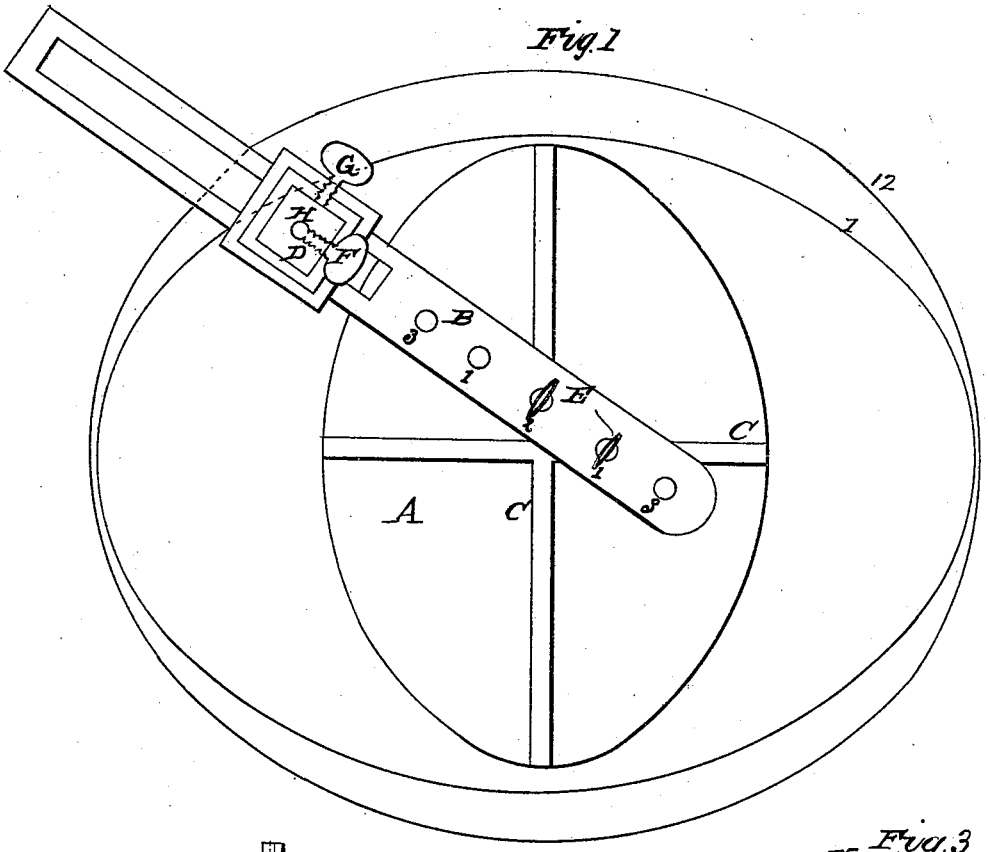


Fig. 3

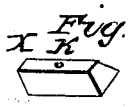
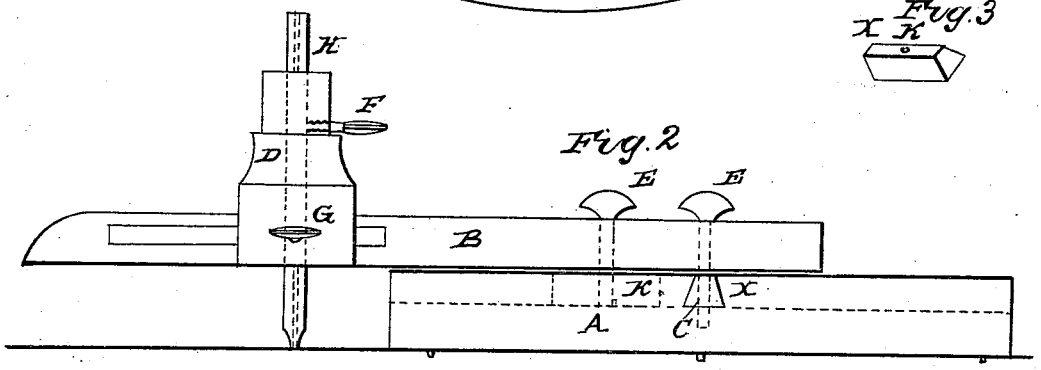


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES CROW, OF ONARGA, ILLINOIS, ASSIGNOR TO HIMSELF AND JAMES HOLLINGSWORTH, OF THE SAME PLACE.

IMPROVEMENT IN TRAMMELS FOR ELLIPSES.

Specification forming part of Letters Patent No. **53,524**, dated March 27, 1866.

To all whom it may concern:

Be it known that I, CHARLES CROW, of Onarga, in the county of Iroquois and State of Illinois, have invented an Improvement in Graduating-Trammels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a plan view of my improvement in graduating-trammels. Fig. 2 is a longitudinal elevation of the same. Fig. 3 is a perspective representation of one of the slides operating in the grooves of the trammel-bed.

The object of my invention is to make five or more holes in the sweep of the elliptical trammel, in which holes screws or pins may be inserted into the slides operating in the grooves of the bed-plate, and in graduating these holes, by numbers, so that the relative length of the major and minor diameters of the ellipse to be struck may be definitely ascertained and understood.

To enable others skilled in the art to make and use my invention, I will describe the method of constructing and using the same.

A represents the common elliptical bed-plate, containing the grooves C C, in which operate the slides K, as shown at Fig. 3.

B shows the sweep, which revolves upon the top of the bed-plate A in the usual manner. D represents the adjustable sweep-head, through which is inserted vertically the pencil or marking point H. F shows the set-screw, which holds the pencil in place. G shows the screw which holds the sweep-head in the required place upon the sweep B, in the usual manner.

Having thus described the common elliptical trammel, I will refer especially to my improvement, which consists in making five or more holes, as shown at 3′ 1 2 1′ 3, through each of which the screws E may be inserted into the holes X of the slides K. The screws E may be changed from one hole to the other for the purpose of striking ellipses of different relative diameters.

Operation: In order to strike an ellipse whose minor diameter shall be to the major diameter as seven to nine, the screws E must be inserted in the holes 1 1′, and to strike an ellipse whose minor diameter shall be to the major diameter as 8 to 9, the screws E must be inserted in the holes 2 1′, as represented in the drawings. In order to accomplish this the sweep B must be turned round upon the bed-plate A in the usual manner. The ellipse 1 (shown in the drawings) has diameters as seven to nine and the ellipse 1 2 has diameters as eight to nine. Other comparative diameters may be made by inserting the screws in the holes 3′ 3, or in holes represented by any other two numbers. The size of the ellipse must be regulated by moving the sweep-head D upon the sweep B, in the usual manner.

Having thus described my device, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The making of five or more holes in the elliptical trammel-sweep and graduating the same, as above described, for the purpose of striking ellipses of different relative diameters, as set forth.

CHARLES CROW.

Witnesses:

WINSLOW WOODS,

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