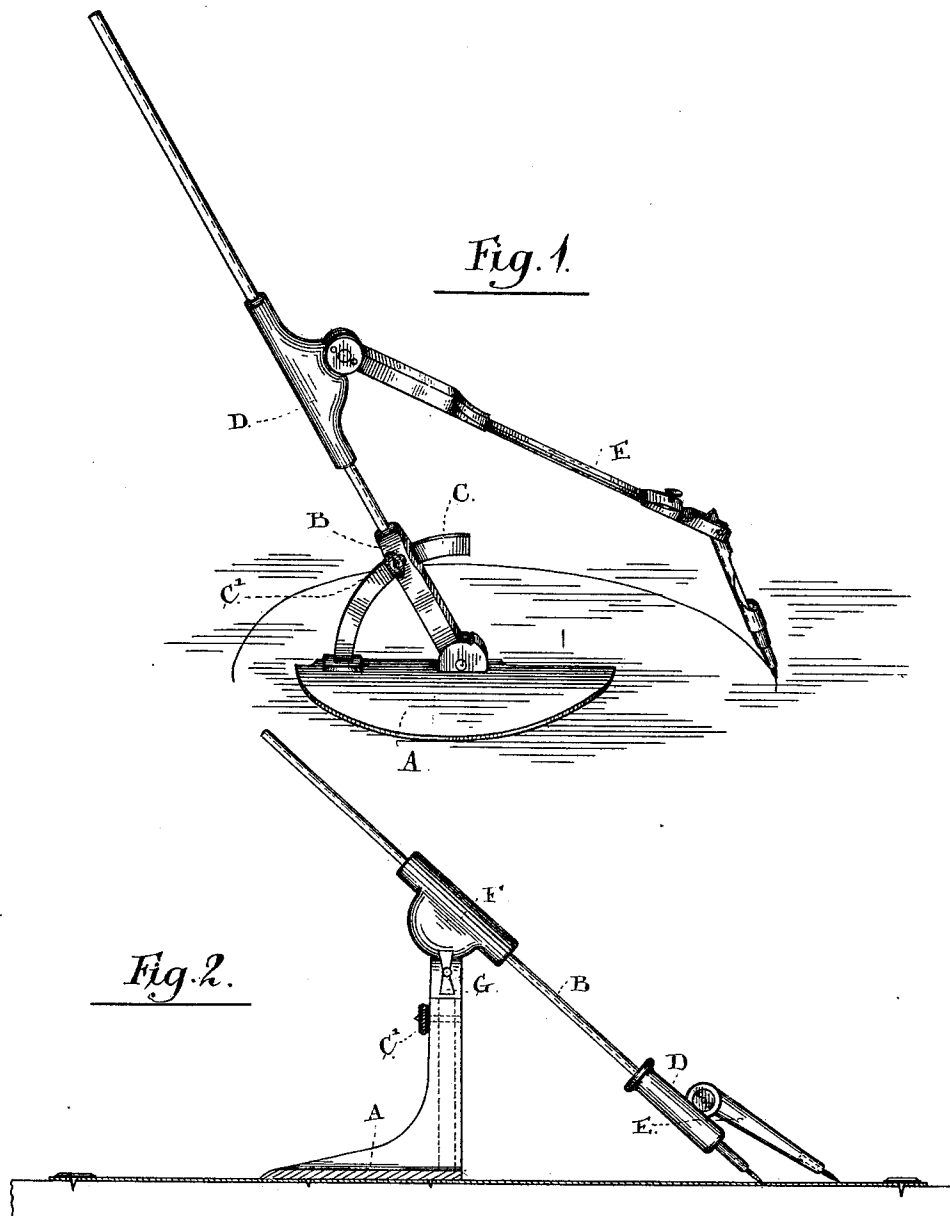


(Model.)

C. McBEAN.
Ellipsograph.

No. 233,424.

Patented Oct. 19, 1880.



Witnesses:-

Louis M. Whithead

John H. Elliot.

Inventor:-

Cyrus M. Bean

by Ridout Bird & Co. Attys

per C. M. W.

UNITED STATES PATENT OFFICE.

CYRUS McBEAN, OF TORONTO, ONTARIO, CANADA.

ELLIPSOGRAPH.

SPECIFICATION forming part of Letters Patent No. 233,424, dated October 19, 1880.

Application filed March 27, 1880. (Model.)

To all whom it may concern:

Be it known that I, CYRUS McBEAN, of the city of Toronto, in the county of York, and Province of Ontario, merchant, have invented a Compass for Scribing Ellipses and Ovals, of which the following is a specification.

The object of the invention is to provide an instrument by which oval and elliptical figures can be drawn with mathematical correctness; and it consists in a scribing point or pencil suitably connected to a sleeve sliding on an adjustable bar so arranged that the shape of the oval or ellipse can be determined by altering the angle of the said bar, as hereinafter explained.

Figure 1 is a perspective view, representing my instrument scribing an ellipse. Fig. 2 is a view of the instrument specially designed for small ovals.

In Fig. 1, A is the base-plate, provided with pegs or such like device for holding it in position while the compass is being operated. B is a bar hinged to the plate, and preferably fitting onto a quadrant, C, to which it is clamped by the set-screw C', so that the angle of its inclination can be adjusted to suit the size of the oval desired. D is a sleeve fitting the bar B and supporting the compass-leg E, which is hinged to it, as shown. This sleeve D should fit the bar B so that it will revolve freely thereon; or, in the event of the bar B being square, the sleeve D should be so constructed that the compass-leg E will revolve on the said sleeve D.

By making the hinge between the bar B and base-plate A sufficiently stiff the quadrant and set-screw can be dispensed with; but it

will generally be found advisable to have them.

Fig. 2 represents the same instrument a little differently arranged. Instead of hinging the bar B to a base-plate, it is passed through a sleeve, F, hinged to a vertical plate or bar, G, attached to the base-plate A. The compass-leg E and sleeve D operate in the same manner; but instead of scribing around the base-plate A it revolves around the point of the bar B, which is preferably sharpened for the purpose indicated. Having determined the size of the oval or ellipse, the compass-leg E is set to scribe the smallest diameter, when, by adjusting the angle of the bar B so that the point of the compass shall reach the largest diameter, the desired figure can be made. Care must, of course, be taken to see that the center of the hinge of the bar B, when the instrument is made as shown in Fig. 1, rests on the center of the oval, and when made as shown in Fig. 2 that the point of the bar B be as in that position.

What I claim as my invention is—

1. A compass-leg, E, connected to the sleeve D, as described, in combination with a bar, B, hinged to the plate A, substantially as and for the purpose specified.

2. A scribing point or pencil connected, as described, to a sleeve sliding on an adjustable bar, arranged substantially as and for the purpose specified.

Toronto, this 22d day of December, A. D. 1879.

CYRUS McBEAN.

Witnesses:

DONALD C. RIDOUT,
LOUIS M. F. WHITEHEAD.