J. C. MOSS.

Parallel-Ruler.

No. 200,216. Patented Feb. 12, 1878.

Fig. 5.

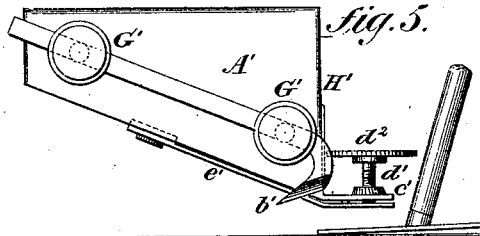


Fig. 1.

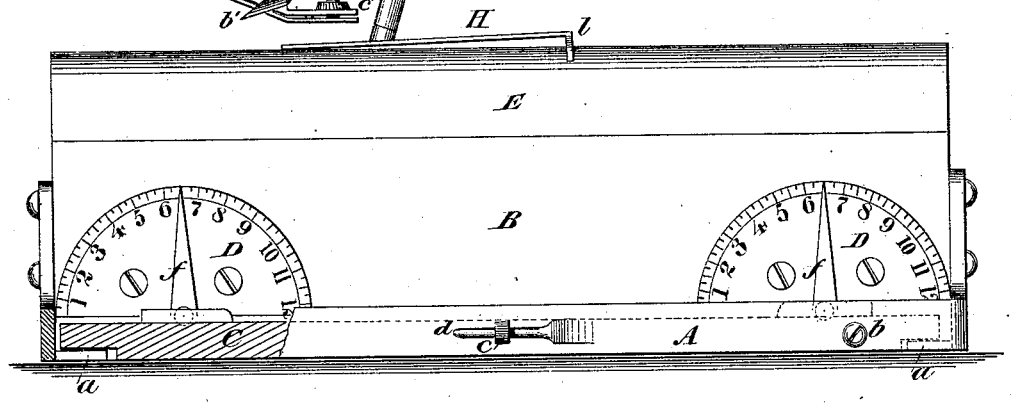


Fig. 6.

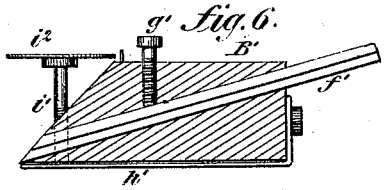


Fig. 2.

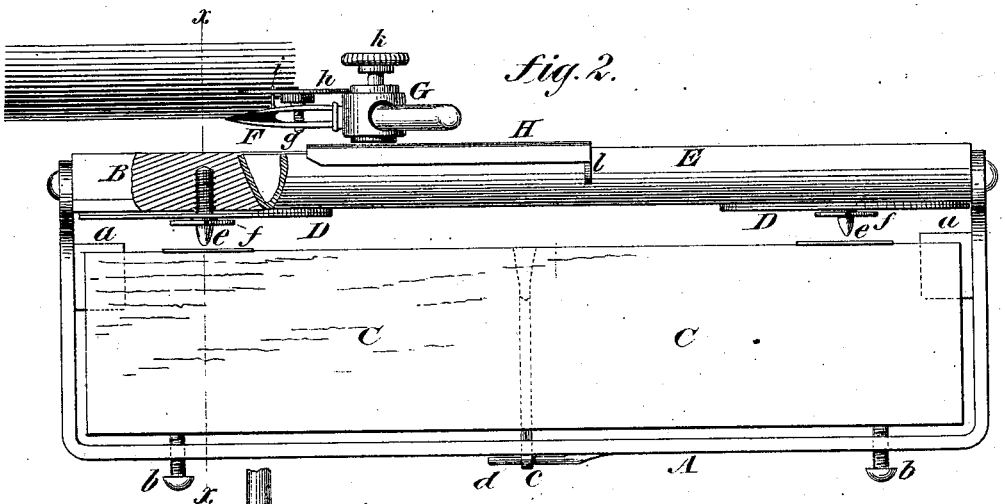


Fig. 3.

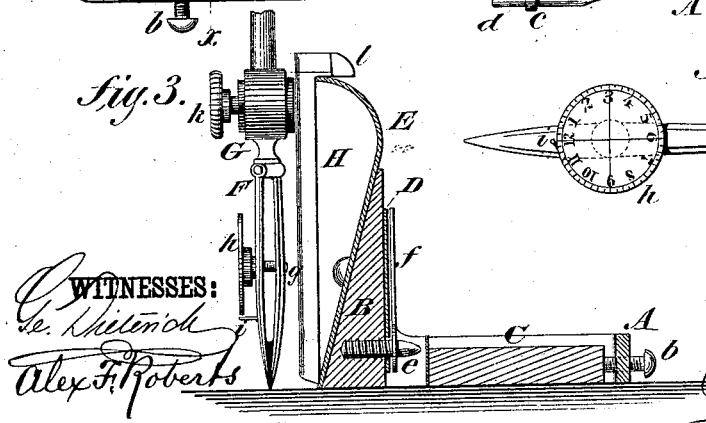
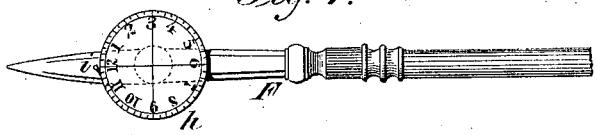


Fig. 4.



WITNESSES:

Se. Wiedenick

Alex F. Roberts

INVENTOR:

J. C. Moss.

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN C. MOSS, OF NEW YORK, N. Y.

IMPROVEMENT IN PARALLEL RULERS.

Specification forming part of Letters Patent No. **200,216**, dated February 12, 1878; application filed July 13, 1877.

To all whom it may concern:

Be it known that I, JOHN CALVIN MOSS, of the city, county, and State of New York, have invented a new and Improved Ruling-Instrument, of which the following is a specification:

Figure 1 is a side elevation. Fig. 2 is a plan view, partly in section. Fig. 3 is a transverse section on line *x x* in Fig. 2. Fig. 4 is a detail view of the pen. Figs. 5 and 6 are detail views of the engraving-tools.

My invention consists in a pen and graver guide and support, which is provided with an adjustable stepping or spacing device, by which it may be moved across the surface on which it is used in regular steps, so that the pen or graver guided by it produces parallel or converging lines with regular or graduated intervening spaces.

The object of the invention is to produce an instrument for accurately and rapidly making line tinted or shaded surfaces.

In the drawing, A is a frame attached to a heavy triangular weight-bar, B, and provided with inwardly-projecting lips *a* for supporting the light wooden bar C. The frame is also provided with set-screws *b*, for regulating the movement of the said bar, and is apertured to admit the rubber spring *c*, which is placed on a wire finger, *d*, attached to the frame A, and, extending through the bar C, is fastened at its inner edge.

On the inner surface of the triangular bar B, near its ends, there are graduated semicircular scales D, in which, opposite the edge of the bar C, there are pointed regulating-screws *e*, having indexes *f* that move in front of the said scales.

To the outer or inclined surface of the triangular bar B a plate, E, is attached, the upper edge of which is curved so that it is directly above the lower edge, and affords space for the ends of the fingers while moving the pen.

The inclined surface of the plate guides the pen or graver carrying device as the pen or graver is placed in contact with the surface being operated on, so that no special care is required in bringing the pen or graver into position for making a line.

The pen F is of the kind commonly used in ruling and in mechanical drawing, and to its adjusting-screw *g* a graduated disk, *h*, is attached. A pin, I, projects from one of the blades of the pen near the disk *h*, and serves as a fixed index for the disk.

The handle of the pen F passes through a post, G, that projects from a plate, H, and is secured by a set-screw, K.

The plate H is bent back at right angles at its top and ends, to stiffen it and to render it convenient to handle. The post G is placed near one of the upper corners of the plate H, and a nib, *l*, projects from the other corner over the upper edge of the plate E. The lower corner of the plate H rests against the face of the plate E near its lower edge.

In Fig. 5 a graver, A′, having a hooked end, *b′*, is clamped in posts G′ that project from the plate H′, which is similar to the plate H.

A lip, *c′*, projects from the edge of the plate at its lower corner, and through it a screw, d^1, passes.

To the lower edge of the plate H′ a spring, *e′*, is attached, which extends under the lip *c′* and is touched by the screw d^1. The graver is drawn along the face of the plate E, and the depth to which it cuts is regulated by the screw d^1, which is provided with a figured disk, d^2, by means of which the depth of the cut may be graduated.

In Fig. 6 a device for carrying a graver is represented, which consists of a block, B′, which is bored diagonally to secure the graver *f′*, and is provided with a screw, *g′*, for binding the graver in the required position.

The graver projects slightly below the lower face of the block B′. To the end of the block a spring, *h′*, is attached, which extends along the under surface of the block, and is adjusted by a screw, *i*, which is provided with a figured disk, i^2, for graduating the depth of the cut. By means of this screw and spring the depth to which the graver cuts is regulated. The side of the block B′ is moved along the face of the plate E, with the spring *h′* in contact with the surface being cut.

The instrument is used by placing the frame A upon the surface to be ruled, and drawing the pen along the surface, at the same time pressing it gently toward the plate E, thus

guiding the pen in a right line. The triangular bar B has sufficient weight to retain its position as the line is made.

The blades of the pen F are adjusted to form a line of any required width, and in making a uniform tint this adjustment is not changed; but when it is required to make a graduated tint the adjusting-screw *g* is turned, and a regular increase or diminution in the width of the lines is secured by turning the graduated disk *h* a certain distance from each line.

For producing parallel lines the screws *b e* are adjusted so that both ends of the frame A and bar C move through the same distance, and this distance may be made greater or smaller by turning the adjusting-screws *b e*; and the instrument is adjusted to produce converging lines by turning the screws so that one end of the frame A and bar C may move through a greater distance than the other.

After the first line is drawn with the pen, as above mentioned, the bar C is pressed firmly down upon the surface being ruled, and the weight-bar B is moved back until the screws *e* touch the bar C. The latter is now released, when the rubber spring *c* draws it back into contact with the screws *b*, and another line is drawn.

The bar C has little weight, so that as it is drawn back by the spring *c* (which has only power enough to move it) the impact will not move the weight-bar B.

A regular increase or diminution in the spaces between the lines may be secured by turning the screws *e* through a part of a revolution after making a line.

An etching-needle or a graver may be substituted for the pen when the instrument may be used for ruling metal or other surfaces.

The pen having the graduated disk *h* may be used to advantage in many cases apart from the other portions of the instrument when it is desirable to produce a series of lines gradually increasing in width, or when it is desired to duplicate a line of a certain width after having changed the adjustment of the pen.

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

1. The frame A, containing the movable bar C, the triangular weight-bar B, and the curved plate E, in combination, for supporting and guiding the pen-carrying device, substantially as herein shown and described.

2. The semicircular scales D and the adjusting-screws *e*, having indexes *f* for graduating the movement of the bar C, substantially as shown and described.

3. The plate H, having the nib *l* and one or more posts, G, for carrying a lining or ruling instrument, substantially as herein shown and described.

4. The spring *e'* and the adjusting-screw *d'*, in combination with the plate H', provided with the lip *c'*, substantially as shown and described.

JOHN C. MOSS.

Witnesses:
C. SEDGWICK,
ALEX. F. ROBERTS.