

(No Model.)

J. C. MILLER.  
PROTRACTOR.

No. 418,415.

Patented Dec. 31, 1889.

Fig. 1.

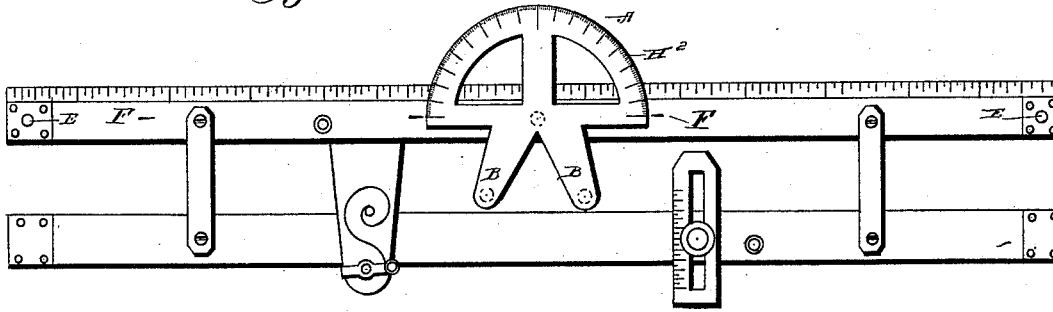


Fig. 2.

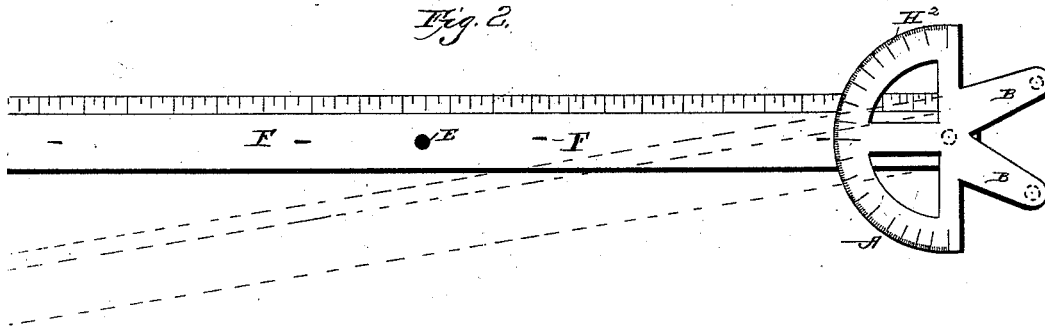


Fig. 3.

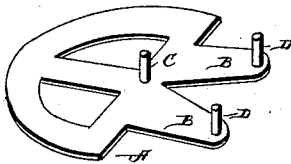
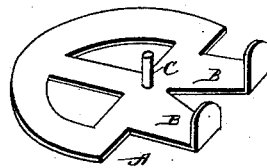


Fig. 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN CALVIN MILLER, OF ICKESBURG, PENNSYLVANIA.

## PROTRACTOR.

SPECIFICATION forming part of Letters Patent No. 418,415, dated December 31, 1889.

Application filed August 27, 1889. Serial No. 322,134. (No model.)

### *To all whom it may concern:*

Be it known that I, JOHN CALVIN MILLER, a citizen of the United States, and a resident of Ickesburg, in the county of Perry and State of Pennsylvania, have invented certain new and useful Improvements in Scale-Protractors for Rulers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in scale-protractors for rulers; and the object of the invention is the production of a simple and inexpensive device by means of which lines may be accurately drawn with a ruler at any desired degree.

To attain the desired object the invention consists of the improved device illustrated, described, and claimed herein.

Figure 1 represents a plan view of a double or parallel ruler with my device applied thereto. Fig. 2 represents a plan view of a single ruler with my device applied, showing in dotted lines the ruler moved to different positions. Fig. 3 represents a perspective view of the device, and Fig. 4 represents a perspective view of a modified form.

The device consists of a segmental or semi-circular plate A, having the scale H<sup>2</sup> of degrees and having the arms B extending there-

from, the plate being provided with a stud or pin C, and the arms being also provided with studs D, by means of which studs the device is supported on the surface.

The ruler is provided with an opening E to receive the stud C, and with marks or pointers F to point to the desired degree on the scale to ascertain the proper slant for the line.

The manner of using the device will be readily understood. The stud on the plate engages the opening in the ruler, which is moved to the desired degree on the scale and the line drawn.

In the modification of the invention the arms are bent down and form supports for the device.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination, with the ruler having the openings E and marks or pointers F, of the segmental plate A, having the scale H<sup>2</sup>, the stud C, and the arms BB, provided with studs D D, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN CALVIN MILLER.

Witnesses:

ABRAHAM SMITH,  
STANLEY E. WETZEL.