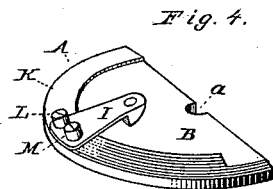
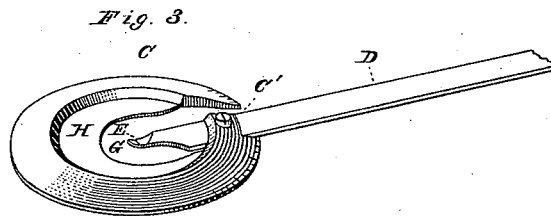
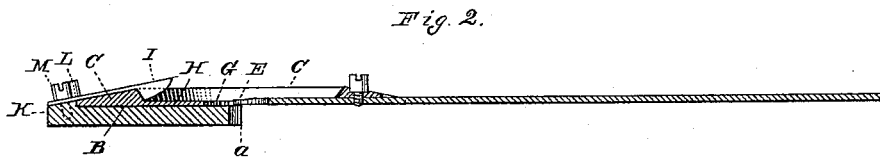
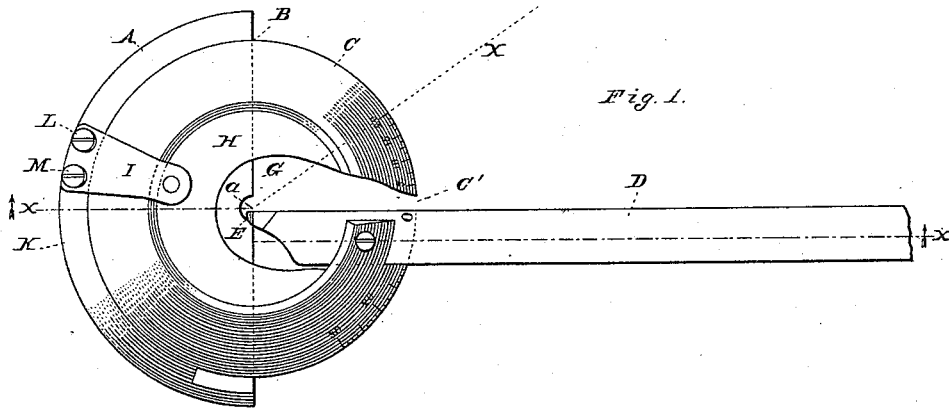


(No Model.)

G. ALMORTH.  
PROTRACTOR.

No. 346,836.

Patented Aug. 3, 1886.



WITNESSES  
*Villette Anderson.*  
*Philip C. Masi.*

INVENTOR  
*G. Almorth*  
by *Anderson & Smith*  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

GUSTAF ALMORTH, OF ELGIN, ILLINOIS, ASSIGNOR OF ONE-TENTH TO  
VINCENT BERTSCH, OF BOSTON, MASSACHUSETTS.

## PROTRACTOR.

SPECIFICATION forming part of Letters Patent No. 346,836, dated August 3, 1886.

Application filed April 8, 1886. Serial No. 198,985. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAF ALMORTH, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Protractors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of this invention, and is a top view. Fig. 2 is a section taken where the dotted line *xx* is marked on Fig. 1. Fig. 3 is a perspective view of one portion, and Fig. 4 is a perspective view of the other portion.

My invention relates to protractors; and it consists in the construction and novel combination of parts, as hereinafter pointed out and claimed.

Referring by letter to the accompanying drawings, A designates the semicircular base-plate, which is cut away in its upper face to form the seat B for the open ring C. The straight-edge or rule D is let into the under face of the open ring C, at one side of the opening C' of said ring C, and the inner pointed

end, E, of the rule D extends to the center of the open ring C, and the opening G in said ring is partially closed by a plate, H. The open ring is beveled on its upper face from its inner edge downward and outward to its edge, and said open ring is held in its seat in the semicircular base-plate by a shouldered spring, I, the latter being secured upon the beveled arc-shaped rim K by screws L M. In this construction the blade or rule cuts or extends to the center of the circle, and the cut or opening C' allows a free way for the pencil along-side of the blade or rule.

This instrument takes the place of the triangle on the plain table or drawing-board.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the semicircular base-plate having the beveled rim, of the open ring, the rule secured thereto at one side of the opening, the shouldered spring and its securing-screws, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAF ALMORTH.

Witnesses:

JAMES A. BRURING,  
C. WILBOR RAY.