(No Model.)

# J. B. RIDDLE.

## PROTRACTOR.

No. 513,828. Patented Jan. 30, 1894.

Fig. 1.

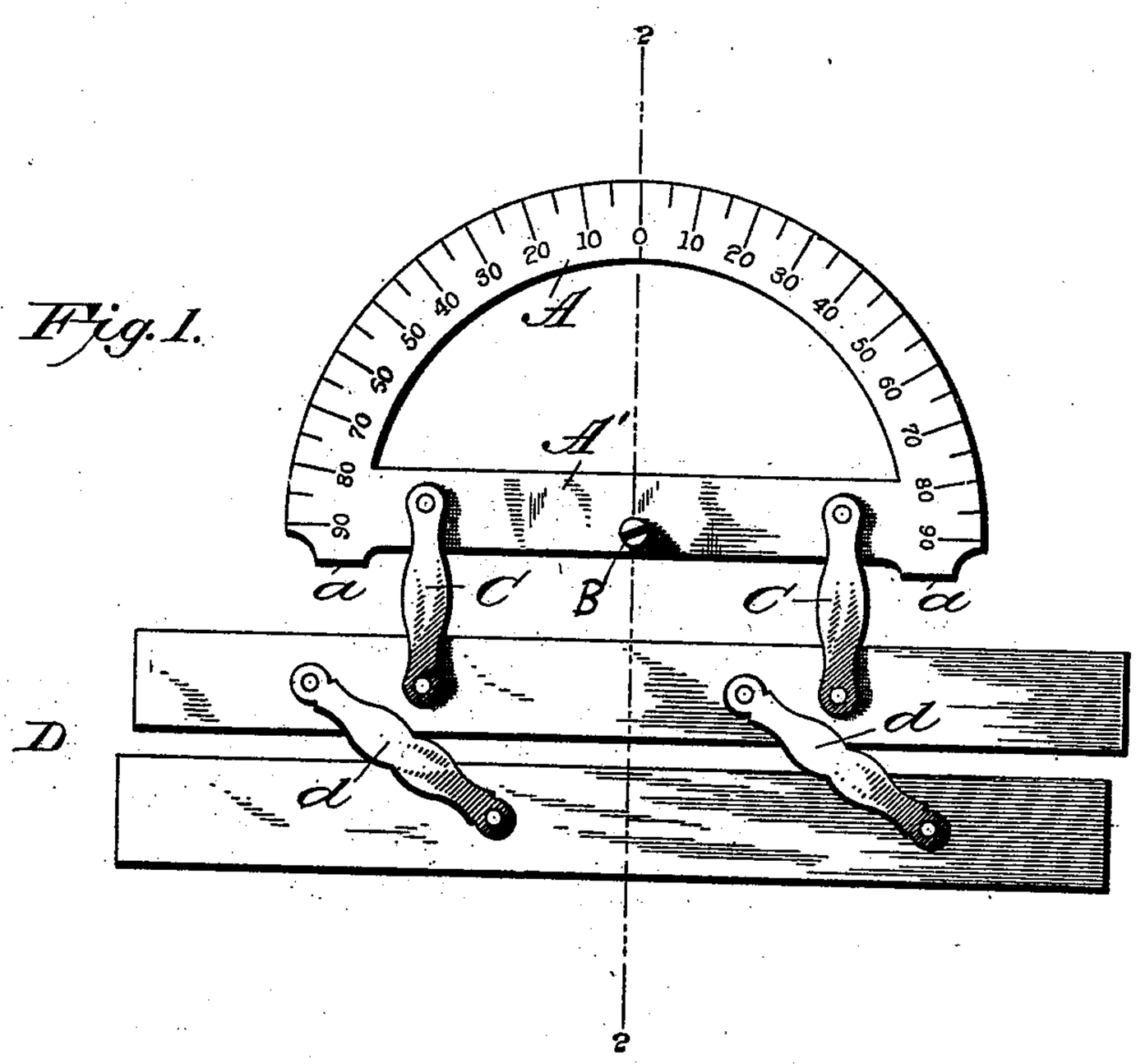
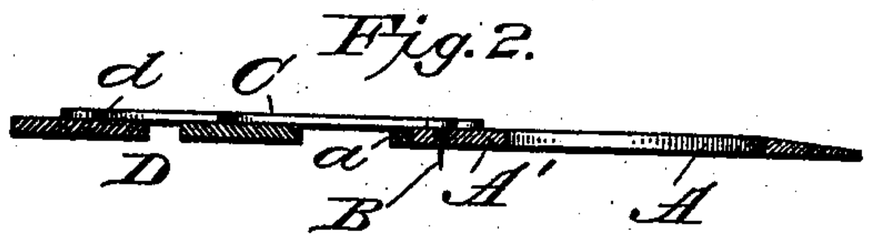



Fig. 2.

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# UNITED STATES PATENT OFFICE.

JOHN B. RIDDLE, OF MORGANFIELD, KENTUCKY.

## PROTRACTOR.

SPECIFICATION forming part of Letters Patent No. 513,828, dated January 30, 1894.

Application filed July 15, 1893. Serial No. 480,646. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN B. RIDDLE, a citizen of the United States of America, residing at Morganfield, in the county of Union and State of Kentucky, have invented certain new and useful Improvements in Protractors; and I do hereby 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 of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a drafting instrument consisting of a combined protractor and parallel ruler designed for use by civil-engineers and surveyors; and the invention consists in the construction and combination of the parts, as will be hereinafter fully set forth and particularly pointed out in the claim.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a combined implement embodying my invention, and Fig. 2 is a sectional view.

A designates the protractor which has the degrees marked thereon after the manner shown in the patent to Charles Wilson, dated December 27, 1887, No. 375,590. The protractor is provided with a straight connecting portion A′ the center of which, on a line with the zero mark on the curved portion, has a threaded aperture to receive a point or pin B, and the lower edge of the connecting portion A′ is provided with extensions or lugs *a*, located near each end, which form contact surfaces for the upper one of the parallel rulers D. The parallel rulers are of ordinary construction and are connected by links *d*, *d*, and the protractor is connected to the upper one of the parallel rulers by links C C. The point of the pin B is adapted to enter the paper upon which the draft is to be made and will permit the protractor and parallel ruler to be swung upon said pivot.

The device hereinbefore described offers a convenient instrument for the use of surveyors, civil-engineers, navigators and draftsmen, and its practical use is obvious.

I am aware that prior to my invention it has been proposed to combine a ruler with a protractor, and I do not claim such as my invention; but

What I do claim as new, and desire to secure by Letters Patent, is—

In combination with a protractor the connection portion A′ of which is provided with a central pin B and a projection or contact point *a* at each end, of a parallel ruler one bar of which is connected to the connecting portion A′ of the protractor by links C C so that it will be permitted to swing away from the protractor parallel with the said connecting portion, substantially as shown and for the purpose set forth.

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

JOHN B. RIDDLE.

Witnesses:
H. X. MORTON,
P. B. MILLER.