Aug. 11, 1925. 1,549,271

G. M. LARSON

COMBINED PROTRACTOR, ADJUSTABLE T-SQUARE, AND RULE

Filed Jan. 26, 1924

Fig. 1.

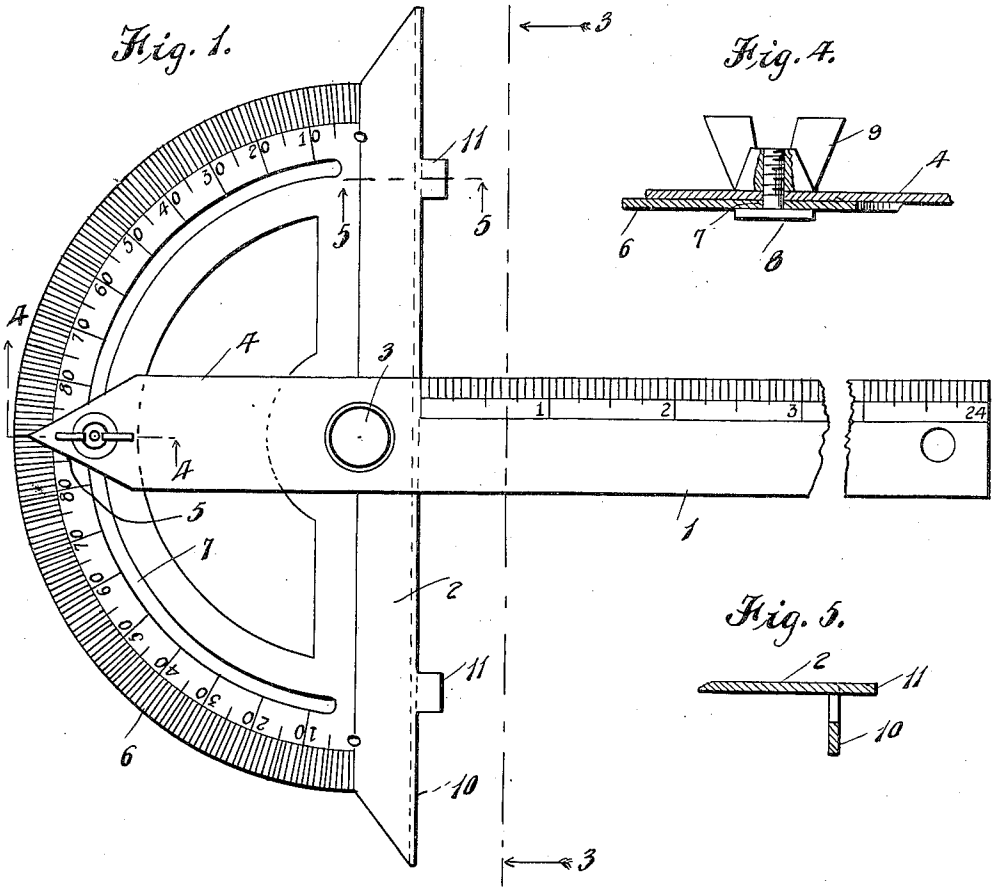


Fig. 4.

Fig. 5.

Fig. 2.

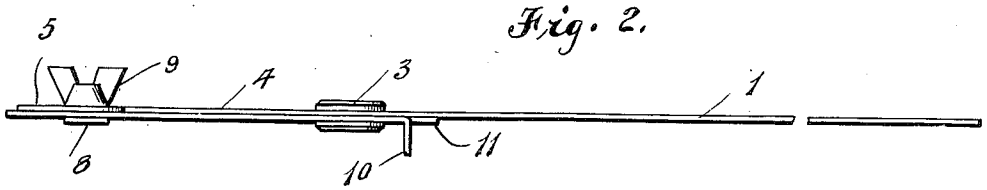
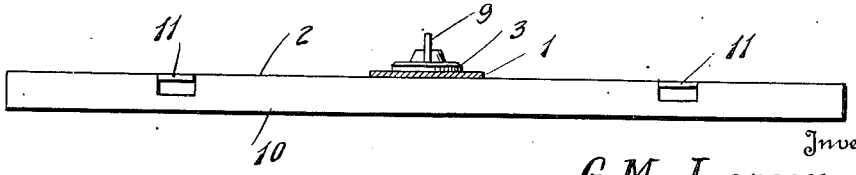


Fig. 3.



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UNITED STATES PATENT OFFICE.

GUST M. LARSON, OF MUNGER, MINNESOTA.

COMBINED PROTRACTOR, ADJUSTABLE T SQUARE, AND RULE.

Application filed January 26, 1924. Serial No. 688,775.

To all whom it may concern:

Be it known that I, GUST M. LARSON, a citizen of the United States, residing at Munger, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Combined Protractors, Adjustable T Squares, and Rules; 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.

The present invention has relation to drafting instruments and has for its object to provide in a single structure an adjustable T-square, protractor and rule, the construction being such as to admit of the instrument being formed from metal, such as steel.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit of the invention.

Referring to the accompanying drawings forming a part of the application:

Figure 1 is a top plan view of a drafting instrument embodying the invention, an intermediate portion of the blade being broken away,

Figure 2 is an edge view of the instrument,

Figure 3 is a sectional view on the line 3—3 of Figure 1, looking in the direction of the arrows,

Figure 4 is a detail sectional view on the line 4—4 of Figure 1, and

Figure 5 is a sectional detail view on the line 5—5 of Figure 1.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawings by like reference characters.

The instrument comprises a blade 1 and a crosshead 2 at one end of the blade and pivoted thereto by means of a rivet 3 or other preferred fastening. The blade 1 is extended outwardly from its pivot connection with the head 2, as indicated at 4, and terminates in a point 5 which functions as an indicator. A protractor 6 is formed with the crosshead 2 and is suitably calibrated for nicety of adjustment in the laying out of angles. The protractor 6 is formed with a slot 7 in which operates a fastening 8 which may be tightened to secure the blade 1 in the required adjusted position with reference to the head 2 and protractor 6. The fastening 8 includes a thumb nut 9, whereby provision is had for securing the blade in the required adjusted position. The head 2 and protractor 6 constitute parts of a single piece of sheet metal and the outer or forward edge of the head 2 is turned downwardly, as indicated at 10, to provide a stop to engage the edge of a drawing board or other article. Lugs 11 are partly cut from the bent edge portion 10 and occupy a position in the plane of the head and protractor to engage the top side of the drawing board or like article to give proper support and prevent tilting of the instrument when in service. The blade 1 is suitably graduated along an edge whereby it may be used in a manner similar to a ruler.

What is claimed is:

1. A drafting instrument of the character specified, comprising a blade pointed at one end to provide an indicator, a crosshead pivoted to the blade a short distance from its pointed end, a protractor formed as a part of the crosshead and with which the pointed end of the blade coacts, said protractor having a slot concentric with the pivot, a fastening carried by the pointed end of the blade and operating in the slot of the protractor to secure the blade in the required adjusted position, a stop formed on said cross head, and lugs extending from said cross head.

2. A drafting instrument comprising a blade having one end pointed to provide an indicator, a crosshead pivoted to the blade a short distance from its pointed end and having its forward edge portion bent downwardly to provide a stop, lugs formed by portions of said downwardly bent edge portion partly cut therefrom and disposed in

the plane of the head to prevent tilting of the instrument when in use, a protractor formed integral with said cross head and in which is provided a curved slot concentric with the pivot of the blade, and a fastening carried by the pointed end of the blade and operating in the slot of the protractor.

In testimony whereof I affix my signature.

GUST M. LARSON.