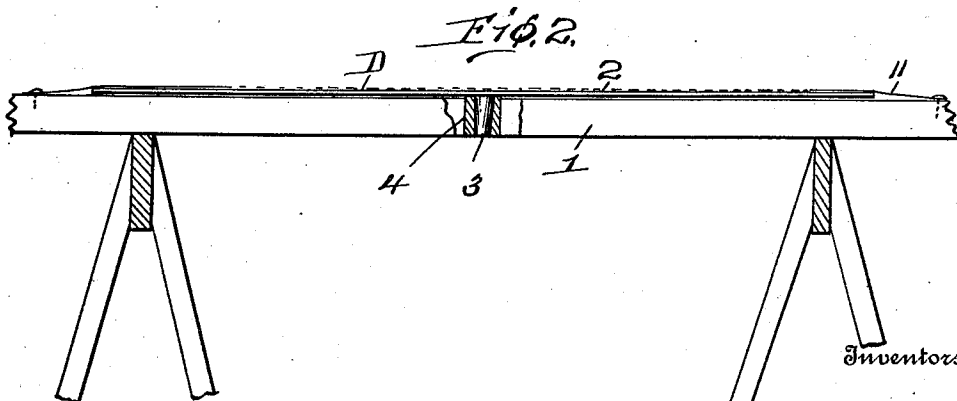
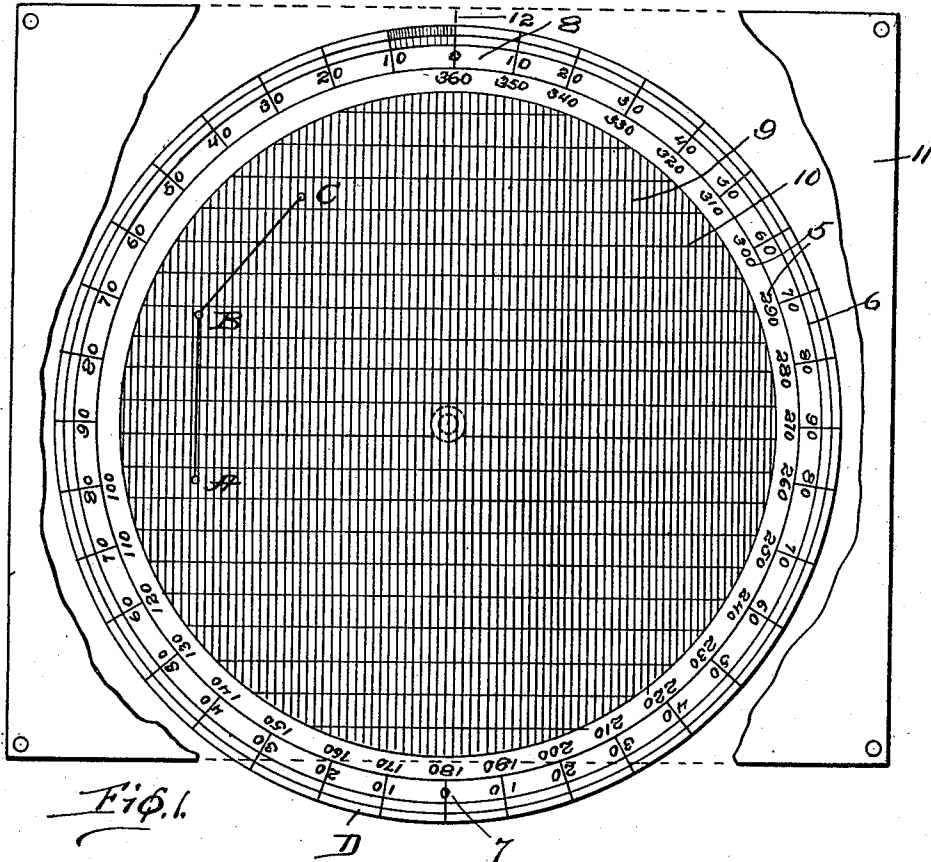


D. H. WHITE.
DRAWING INSTRUMENT.
APPLICATION FILED AUG. 15, 1910.

1,008,934.

Patented Nov. 14, 1911.



Witnesses
J. M. Crocker Jr.
A. L. Kitchen.

Inventors
David H. White
By Mason Farnick Lawrence,
Attorneys

UNITED STATES PATENT OFFICE.

DAVID H. WHITE, OF TACOMA, WASHINGTON.

DRAWING INSTRUMENT.

1,008,934.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed August 15, 1910. Serial No. 577,261.

To all whom it may concern:

Be it known that I, DAVID H. WHITE, a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Drawing Instruments; 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.

This invention relates to improvements in drawing instruments, and particularly to protractors.

The object of the invention is the arrangement in a protractor of means for permitting the rapid adjustment and securing of any desired angle.

A further object in view more specifically is the formation of a rotating disk having graduations marked thereon, and a plurality of sets of parallel lines, the sets extending at right angles to each other.

Another object is the arrangement of improved means in a protractor in which there are provided drawing guides for attachment to and use in connection with an ordinary drawing board or table of usual or preferred construction, whereby a very convenient, accurate and extremely rapid method of plating courses or drawing lines at any desired angle is accomplished.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a top plan view of an embodiment of the invention, and Fig. 2 is a part side and part sectional elevation of the showing in Fig. 1.

In forming a structure embodying the invention the same is constructed preferably of sheet material cut in a disk form and has mounted thereon a bearing member for pivotally mounting the disk on the upper surface of a drawing board, table, or the like. After the disk, which has a plurality of lines running parallel with the median line thereof and a plurality of lines running transversely thereof, has been placed in position a sheet of tracing linen or transparent substance of any kind is placed over the same and secured in position over the board. A drawing, as for instance a map, may be

started at any desired point, and a straight line projected from said point in the desired direction. In case it is desired to draw a second line at any desired angle from the first line such angle may be secured by moving the disk so that the indicated degrees will come opposite to where the median line was formerly located. This will give the proper angle for the second line if the lines parallel with the original median line are followed.

In order that the invention may be more clearly understood an embodiment of the same is shown in the accompanying drawings, in which—

1 indicates a drawing table of any desired structure which is supported in any desired manner. Arranged on top of the table is a disk 2. Disk 2 has connected therewith a bearing member 3 slightly beveled for fitting into a slightly beveled socket member 4, which in turn is rigidly secured to table 1, the bevel of members 3 and 4 accommodating any slight wear that may occur at this point. Disk 2 is provided with graduations in degrees, which graduations may be brought down to any desired extent, that is, the same may be indicated as 360° for the circle, and each degree divided to a greater or less extent as preferred. In arranging the degree graduations the same extend through circle 6 which has the degrees marked thereon in quadrants, so that the same are indicated as extending from the median line to 90°. This arrangement is used for rapid calculation and the rapid securing of the desired angle. On the drawing the median line is through the zero points 7 and 8. Parallel with the median line drawn through these two points are a plurality of lines 9 extending over substantially all of the surface of disk 2. Extending at right angles to lines 9 are a plurality of lines 10. The lines 9 and 10 respectively may be placed any desired distance apart for assisting in drawing lines on the paper 11 correctly.

Suppose the first course to be platted is north, zero 8 is arranged opposite a central line 12 and a dot is made on the paper or cloth 11, which is transparent or substantially so, at point A, and the distance measured by any scale desired along one of the parallel lines 9 to a point B where another dot is made. If the next course is 40° east of north revolve disk or plate 2 by turning

- the same at point D until the graduation at 40 on line 6 coincides with line 12 on the tracing cloth when the parallel lines on the disk will vary their position accordingly.
- 5 Using these parallel lines as a guide measure off the distance required and place a dot at point C. This will give the required angle for the line between points B and C. In like manner the drawing may be continued
- 10 as desired, the disk 2 and the numerals and lines thereon being seen through the tracing cloth. If the work gets beyond the limits of the disk 2 the tracing may be readily removed and tacked in a new position.
- 15 What I claim is:
- In a protractor, a board adapted to hold a sheet of transparent or translucent paper, a disk rotatable between said sheet of paper and board having graduations about the periphery of said disk, said board having an indication or guide line on the board adjacent the graduations on the disk, said disk having sets of parallel lines covering the area within the graduations, one set of lines being perpendicular to the other, and a portion of said disk being adapted to extend beyond the edge of the board to permit the rotation of the disk when covered by a sheet of paper.
- In testimony whereof I affix my signature in presence of two witnesses.
- DAVID H. WHITE.
- Witnesses:
R. H. LUND,
A. H. GARRETSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."