

Jan. 29, 1946.

G. H. THURSTON

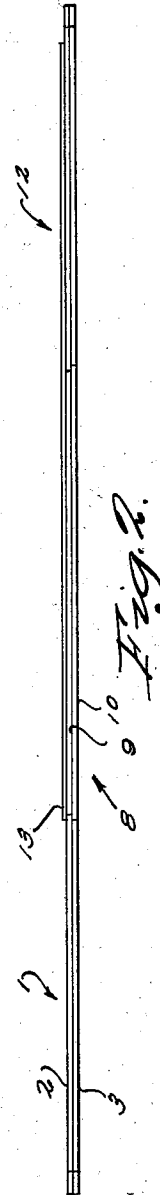
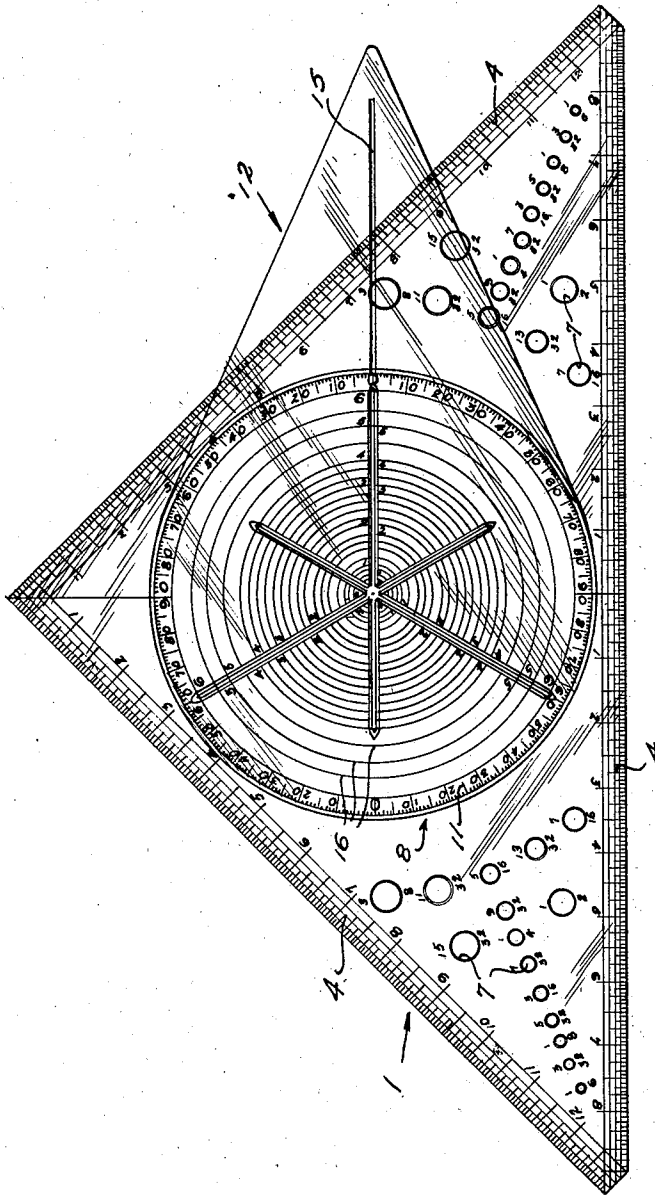
2,393,873

COMBINATION DRAFTING INSTRUMENT

Filed March 9, 1944

2 Sheets-Sheet 1

Fig. 1.



Inventor

GEORGE H. THURSTON

By

Charles A. O'Brien
and Harvey B. Jackson
Attorneys

Jan. 29, 1946.

G. H. THURSTON

2,393,873

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2 Sheets-Sheet 2

Fig. 3.

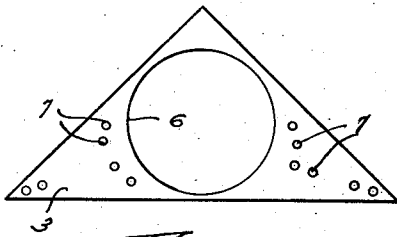
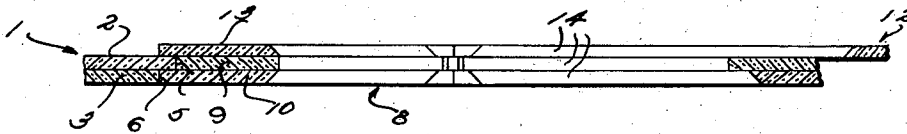


Fig. 4.

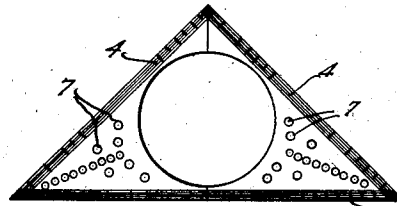


Fig. 5.

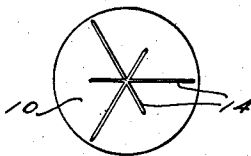


Fig. 6.

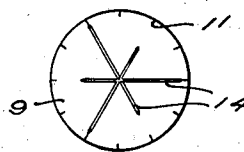


Fig. 7.

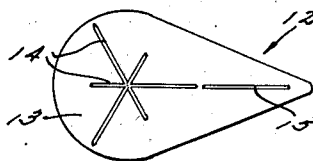


Fig. 8.

Inventor

GEORGE H. THURSTON

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

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COMBINATION DRAFTING INSTRUMENT

George H. Thurston, Camp Hood, Tex.

Application March 9, 1944, Serial No. 525,715

1 Claim. (Cl. 33—93)

The present invention relates to new and useful improvements in drafting instruments, and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character comprising a novel combination of square, T-square, triangle and revolving protractor, whereby all portions of mechanical drawings, with the exception of circles, may be rapidly and accurately made.

Another very important object of the invention is to provide a unique construction and arrangement for mounting the rotary protractor and the T-square blade on the instrument.

Other objects of the invention are to provide a combination drafting instrument of the aforementioned character which will be relatively simple in construction, durable, compact and which may be manufactured at low cost.

All of the foregoing, and still further objects and advantages of the present invention, will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a top plan view of a drafting instrument constructed in accordance with the present invention.

Figure 2 is a view in side elevation of the device.

Figure 3 is a view in vertical section through an intermediate portion of the instrument.

Figure 4 is a plan view of the lower lamination of the base or triangle.

Figure 5 is a top plan view of the upper lamination of the triangle.

Figure 6 is a detail view in plan of the lower disc of the rotary protractor.

Figure 7 is a plan view of the upper disc of the rotary protractor.

Figure 8 is a plan view of the rotary square blade.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a 45° triangle which is designated generally by reference character 1. The triangle 1 includes upper and lower laminations 2 and 3, respectively, of suitable transparent material, preferably Celluloid, which laminations are adhesively secured together. Scales 4 are provided on the marginal portions of the upper lamination 2 of the triangle 1.

The laminations 2 and 3 of the triangle 1 have formed centrally therein registering circular openings 5 and 6, respectively. As illustrated to advantage in Figure 3 of the drawings, the opening 6 is of slightly larger diameter than the opening 5. The triangle 1 is further provided with a multiplicity of circular holes 7 of various sizes.

The openings 5 and 6 in the laminations 2

and 3 accommodate a rotary protractor which is designated generally by reference character 8. The protractor 8 comprises upper and lower discs 9 and 10, respectively, which are adhesively secured together. The discs 9 and 10 are also of suitable transparent material, such as Celluloid. It will be observed that the lower disc 10, which is operable in the lower opening 6 of the triangle 1, is of slightly larger diameter than the upper disc 9. The marginal portion of the upper disc 9 of the protractor 8 is provided with a scale 11.

Adhesively secured on the upper disc 9 of the protractor 8 for rotation therewith is a substantially oblong lanceolate blade 12 of Celluloid or other suitable transparent material. The base portion 13 of the blade 12 is coaxial with the protractor 8 and is slightly larger than the disc 9. Thus, the marginal portion of the base portion 13 of the blade 12 projects over the upper lamination 2 of the triangle 1. In this manner the elements 13 and 10 coact for rotatably securing the protractor 8 and the blade 12 on the triangle 1. This is also shown to advantage in Figure 3 of the drawings.

The portion 13 of the blade 12 and the discs 9 and 10 of the rotary protractor 8 have formed therein registering radial slots 14. Outwardly of the slots 14 therein, the blade 12 is further provided with a longitudinal slot 15. The upper disc 9 of the rotary protractor 8 is further provided with spaced, concentric circles 16 which the slots 14 intersect.

It is believed that the many advantages of a combination drafting instrument constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

A device of the character described comprising, in combination, a triangle consisting of superimposed laminations secured together to produce a unit of geometric dimensional projections and having various geometric indicia thereon, a rotatably actionable protractor disposed on said triangle including superimposed discs rotatable in relatively corresponding reception recesses in said triangle, and an instrument of oblong lanceolate contour having its base fixed coaxially on the upper disc of said protractor, the marginal portions of said instrument converging to a point extending beyond the marginal edges of said triangle, said instrument being transparent to permit of the reading therethrough of the graduations and projecting indicia on said triangle and protractor.

GEORGE H. THURSTON.