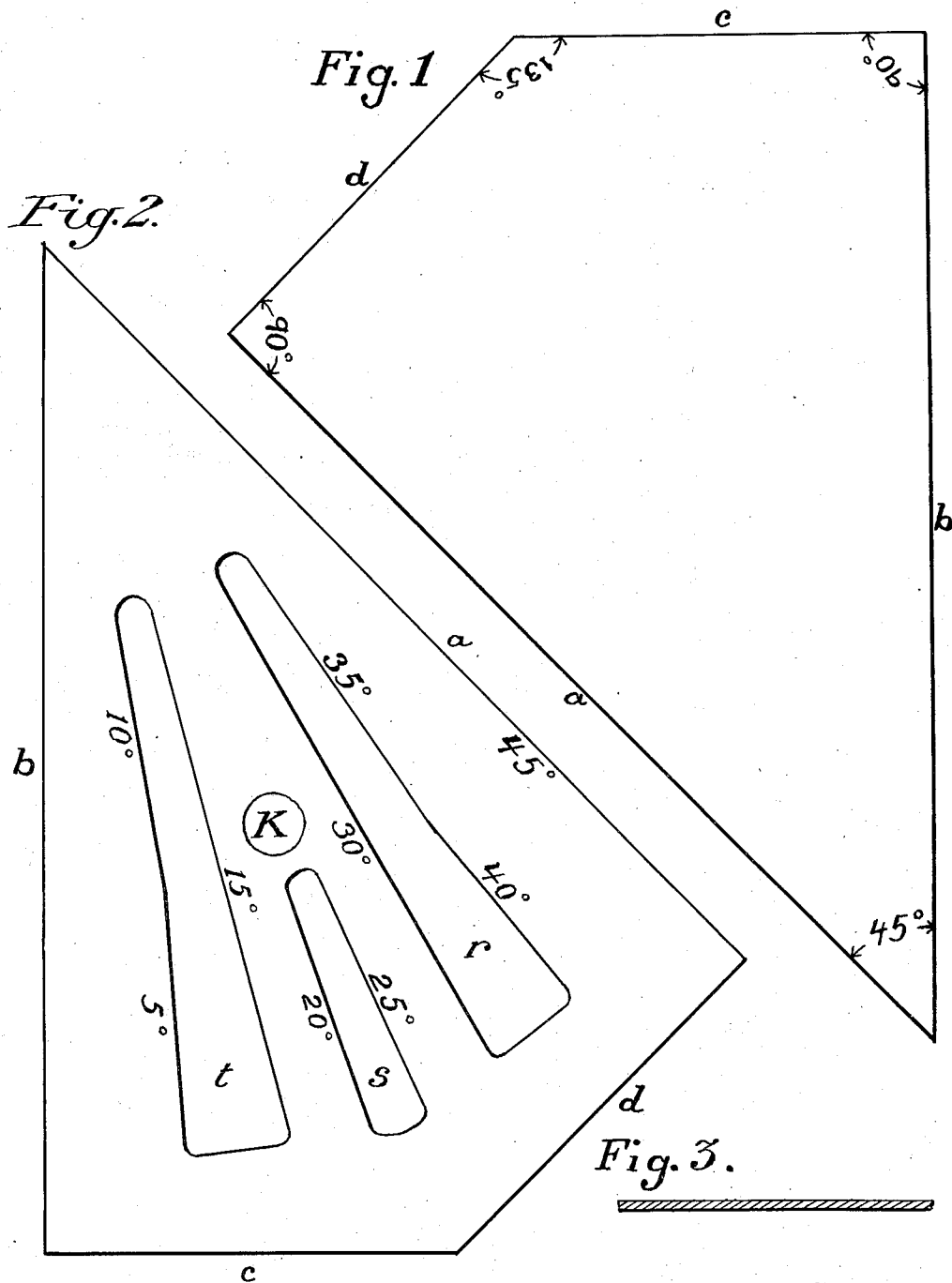


No. 827,989.

PATENTED AUG. 7, 1906.

G. C. NOBLE.
TRIANGLE FOR DRAFTSMEN.
APPLICATION FILED DEC. 8, 1904.



Witnesses
A. M. Dunn
Larry D. Reith

Inventor
George Curtis Noble

UNITED STATES PATENT OFFICE.

GEORGE CURTIS NOBLE, OF EAU CLAIRE, WISCONSIN.

TRIANGLE FOR DRAFTSMEN.

Nc. 827,989.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed December 8, 1904. Serial No. 235,941.

To all whom it may concern:

Be it known that I, GEORGE CURTIS NOBLE, a citizen of the United States of America, residing at Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented a new and useful Triangle for Draftsmen, of which the following is a specification.

I here employ the term "triangle" because this term is applied to all similar instruments, even when the outline is not geometrically triangular.

My invention relates to improvements in that class of instruments which draftsmen employ in conjunction with their T-squares and which they commonly term "triangles."

My new triangle is specially designed to furnish a peculiar combination of slants, (a slant being the slope any given edge of a triangle makes with respect to the edge of a T-square when they are used together,) which combination will be of great aid to draftsmen in many ways, which I shall hereinafter indicate.

Figure 1 is a full-size view of this triangle without slots. Fig. 2 shows the triangle perforated with auxiliary slots. Fig. 3 shows a vertical section of either Figs. 1 or 2, taken at any point.

Similar letters refer to similar parts in both views.

The fundamental idea of this triangle is embodied in Fig. 1. This comprises a thin plate of suitable material bounded by the straight edges *a*, *b*, *c*, and *d* in such a manner that the acute angle between *a* and *b* shall be forty-five degrees, that *a* shall be equal in length to *b*, that *d* shall intersect at right angles with *a*, and *c* at right angles with *b*. These conditions require that *c* equal *d* in length and that the obtuse angle between them equal one hundred and thirty-five degrees; also, that the figure be symmetrical about a line connecting the obtuse with the acute angle. This new arrangement provides that no matter on which edge the triangle rests against the T-square there will always remain free for work two forty-five-degree edges (intersecting at right angles) and one perpendicular edge. This has never been achieved before in any triangle. It enables the draftsman to work with a minimum of triangle-shifting and to proceed with maximum facility.

Fig. 2 shows the auxiliary use of slots with the arrangement as already given. The ar-

range of slots as shown at *r*, *s*, and *t* is one of the most useful ones. This provides without turning the triangle upside down slants of all degrees, counting by fives, from zero to three hundred and sixty degrees. It accomplishes this result in the following manner: First, rest *b*, Fig. 2, against edge of T-square. Then the different edges of slots will read as given—five degrees, ten degrees, fifteen degrees, &c., up to forty-five degrees. Next, rest *d* against T-square. Then five degrees becomes fifty degrees, ten degrees becomes fifty-five degrees, fifteen degrees becomes sixty degrees, &c., up to the perpendicular or ninety-degree edge at *a*. Similarly, *c* and *a*, when against T-square, give angles ninety degrees to one hundred and thirty-five degrees and one hundred and thirty-five degrees to one hundred and eighty degrees, respectively. Angles from one hundred and eighty degrees to three hundred and sixty degrees will coincide with angles from zero to one hundred and eighty degrees in practice. Since all this is accomplished without turning the triangle upside down, as is commonly done, a knob is placed for convenience at *K*, Fig. 2.

The above is only one, although I consider it the most useful, arrangement of slots. It will be noticed that every slot edge is given at least four distinct values (which become eight values if five-degree slants are also called "one-hundred-and-eighty-five-degree" slants, &c.) This is due to the outline of the triangle. Furthermore, the triangle is all in one piece, (excepting auxiliary knob,) and I claim for it that it will do more than any two ordinary triangles now on the market, even when the latter are used in conjunction with one another. It is thus an excellent substitute for the clumsy two-triangle system now in vogue.

I appreciate that knobs and slots have previously been employed in drafting-triangles; but

What I claim as my invention, and wish to secure by Letters Patent, is—

An article for manufacture: a drafting-triangle substantially as illustrated, consisting of a flat plate of suitable material, with the outline as illustrated and described, *i. e.*, consisting of four straight edges ("*a*," "*b*," "*c*" and "*d*") forming right angles between "*b*" and "*c*," and between "*d*" and "*a*," and a forty-five-degree angle between "*a*" and

"b," and making "a" equal to "b" in length; this plate to be pierced with three slots as illustrated, whose sides, radiating from near the forty-five-degree angle, shall form in succession the angles of five degrees, ten degrees, 5 fifteen degrees, twenty degrees, twenty-five degrees, thirty degrees, thirty-five degrees, forty degrees with the sides "a" and "b;" the whole instrument to be symmetrical
10 about an axis connecting the forty-five-de-

gree angle between "a" and "d" with the angle diametrically opposite.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE CURTIS NOBLE.

Witnesses:

A. M. BUNN,
HARRY F. RUETH.