

F. A. DEL CASTILLO.
 COMBINED PROTRACTOR AND T SQUARE.
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994,570.

Patented June 6, 1911.

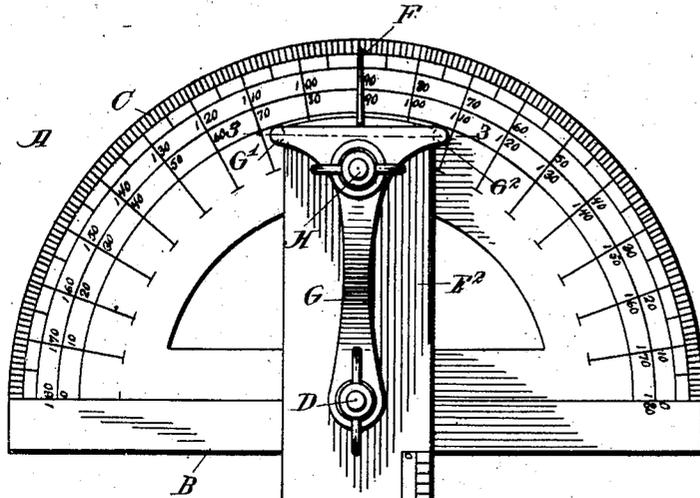


FIG. I.

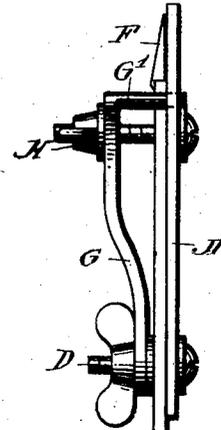


FIG. 2.

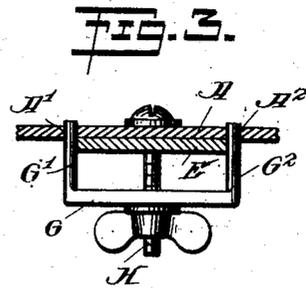
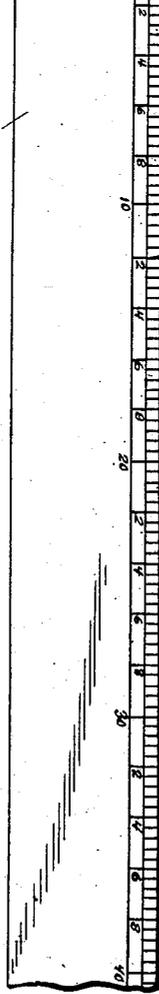


FIG. 3.

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COMBINED PROTRACTOR AND T-SQUARE.

994,570.

Specification of Letters Patent.

Patented June 6, 1911.

Application filed February 23, 1911. Serial No. 611,341.

To all whom it may concern:

Be it known that I, FRANCISCO A. DEL CASTILLO, a citizen of the United States, and a resident of Washington, in the District of Columbia, have invented a new and Improved Combined Protractor and T-Square, of which the following is a full, clear, and exact description.

The invention relates to drafting instruments, and its object is to provide a new and improved combined protractor and T square, for the use of draftsmen, engineers and other persons, and arranged to permit of setting the blade of the square to any desired angle indicated on the protractor or to accurately fasten the blade in right-angle position relative to the base of the protractor. For the purpose mentioned use is made of a protractor, at the center of which is pivoted a blade, and an arm extends from the pivot of the blade and is provided with spaced pins straddling the sides of the blade, the pins also engaging apertures in the protractor.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the combined protractor and T square; Fig. 2 is an edge view of the same; and Fig. 3 is a sectional side elevation of the same on the line 3—3 of Fig. 1.

The protractor A, of metal or other suitable material, is provided with a base B and the usual graduations C indicating degrees and subdivisions, and on the center of the protractor A is arranged a clamping screw D forming the pivot for a blade E having a graduated portion E' extending beyond the base B, and a portion E² extending onto the face of the protractor, as plainly indicated in Figs. 1 and 2. On the terminal of the portion E² is secured or formed a pointer F, indicating on the graduations C of the protractor A.

An arm G engages the clamping screw D and is provided at its free end with spaced pins G', G² straddling the sides of the portion E² of the blade E, the said pins also engaging apertures A', A² formed in the protractor A at opposite sides of the 90° mark of the graduations C, as will be readily understood by reference to Figs. 1 and 3.

It is understood that when the pins G', G² engage the apertures A', A² then the blade E is held against swinging movement on its pivot D and at the same time the pointer F indicates accurately on the 90° mark of the graduations C so that the blade E extends at right angles to the base B of the protractor A. A screw H extending through the protractor A, blade E and arm G, serves to hold the arm G firmly in position when the pins G', G² engage the apertures A', A² in the protractor A.

When it is desired to swing the blade E into any desired angular position relative to the base B of the protractor A then the arm G and screw H are removed so as to permit free swinging movement of the blade E on the pivot D held on the protractor A.

The combined protractor and T square shown and described is very simple and durable in construction, and the parts can be readily assembled to form practically a permanent T square by the base B of the protractor A and the blade E, the arrangement also permitting of swinging the blade E into a desired angular position and clamping it therein by the clamping screw D in case the arm G and bolt H are removed, as previously explained.

It is understood that the arm G serves to fix the blade E firmly in position on the protractor A and at right angles to the base B of the protractor so that the tool can be used the same as any ordinary T square.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A combined protractor and T square, comprising a protractor, a blade carrying a pointer indicating on the graduations of the said protractor, a clamping screw pivot on the center of the protractor and engaging the said blade, and an arm held on the said pivot and provided with pins straddling the sides of the blade and engaging spaced apertures in the said protractor to hold the blade in a right angle position relative to the base of the protractor.

2. A combined protractor and T square, comprising a protractor, a blade carrying a pointer indicating on the graduations of the said protractor, a clamping screw pivot on the center of the protractor and engaging the said blade, an arm held on the said

pivot and provided with pins straddling
the sides of the blade and engaging spaced
apertures in the said protractor to hold the
blade in a right angle position relative to
5 the base of the protractor, and a clamping
screw engaging the said protractor, blade
and arm.

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

FRANCISCO A. DEL CASTILLO.

Witnesses:

C. STEWART O'NEILL,
RAOUL WASHINGTON.

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