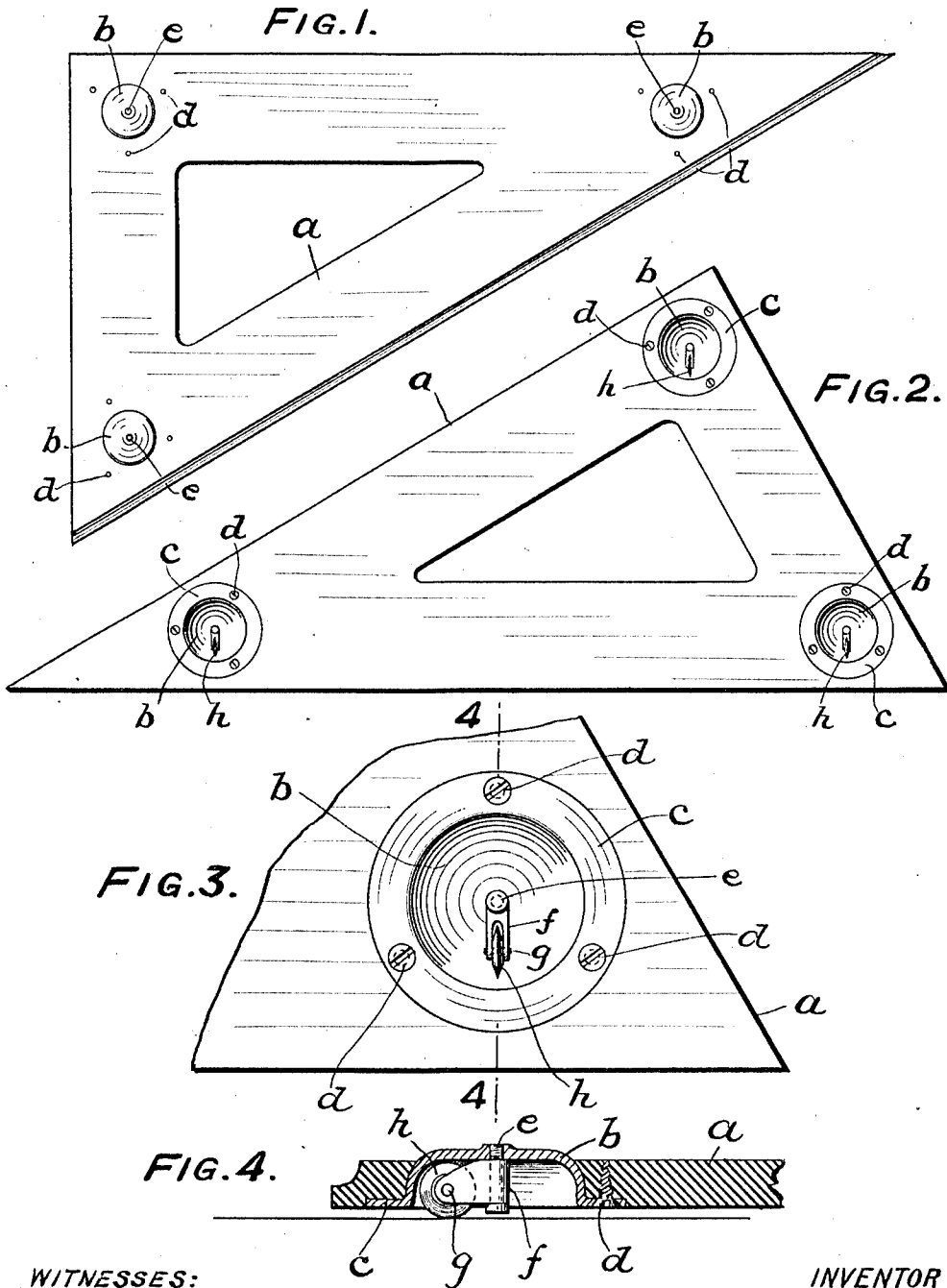


F. I. DU PONT.
DRAFTSMAN'S TRIANGLE.
APPLICATION FILED MAR. 4, 1911.

1,012,340.

Patented Dec. 19, 1911.

2 SHEETS—SHEET 1.



WITNESSES:

W. P. R. Kitchel.

E. E. Hall

INVENTOR

Francis J. duPont

BY *Harding & Harding*
ATTORNEYS.

F. I. DU PONT.
DRAFTSMAN'S TRIANGLE.
APPLICATION FILED MAR. 4, 1911.

1,012,340.

Patented Dec. 19, 1911.

2 SHEETS—SHEET 2.

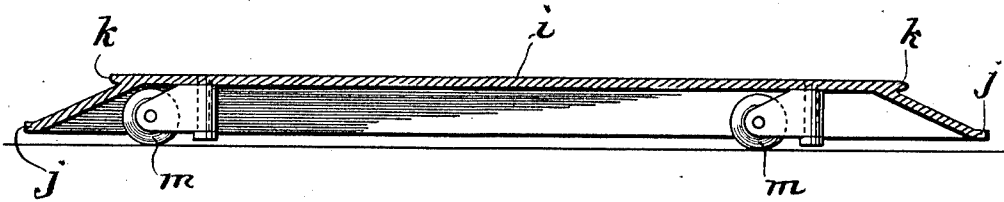


FIG. 5.

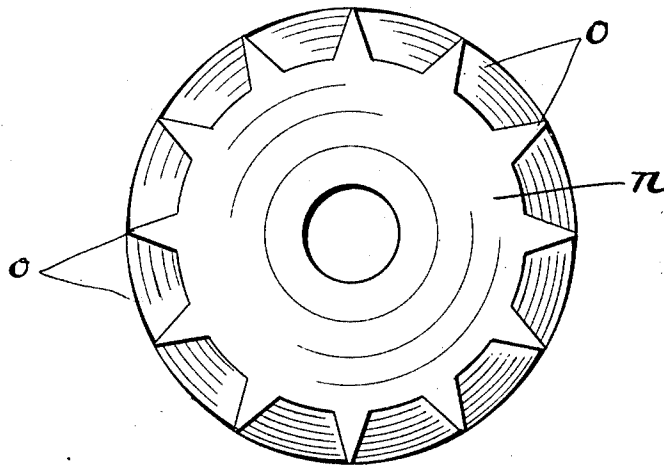


FIG. 6.

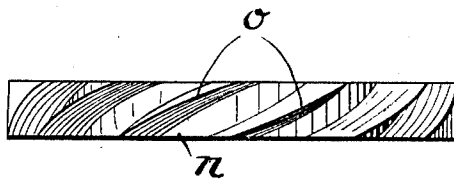


FIG. 7.

WITNESSES:

Robt. R. Kitchel.
E. E. Hall

INVENTOR

Francis I du Pont
BY *Harding & Harding*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRANCIS I. DU PONT, OF WILMINGTON, DELAWARE.

DRAFTSMAN'S TRIANGLE.

1,012,340.

Specification of Letters Patent.

Patented Dec. 19, 1911.

Application filed March 4, 1911. Serial No. 612,220.

To all whom it may concern:

Be it known that I, FRANCIS I. DU PONT, a citizen of the United States, residing at Wilmington, county of New Castle, and State of Delaware, have invented a new and useful Improvement in Draftsmen's Triangles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

The object of my invention is to provide a draftsman's triangle or similar instrument capable of being superimposed upon, and moved over, the face of a drawing or tracing in course of execution, regardless of whether the ink beneath the triangle is dry, and without appreciably affecting such of the inked lines as may not be dry, thereby effecting a great saving of time in the completion of the work.

In the drawings: Figure 1 is a plan view of a triangle embodying my invention; Fig. 2 is an inverted plan view of the same; Fig. 3 is an enlarged plan view of a detail of Fig. 2; Fig. 4 is a section on the line 4-4 of Fig. 3; Fig. 5 is a vertical section of a modification; Figs. 6 and 7 are respectively plan and edge views of a modified form of wheel.

a is the triangle. In recesses in the three corners of the triangle are inserted cup-shaped plates *b* having annular flanges *c*. The flanges are flush with one face of the triangle and may be secured to the same by screws *d*. The base of the cup extends somewhat beyond the plane of the opposite face. Cup-shaped recesses are thus formed in one face of the triangle. Secured to the base of each cup is a pivot-pin *e*. This pin extends at right angles to the plane of extension of the cup. Rotatably mounted on each pin is a bracket *f* having a forked end in which is secured a pivot pin *g*. Rotatably mounted on each pin *g* is a wheel, roller or caster, *h*. This roller is provided with a knife-edge and projects beyond the plane of the recessed face of the triangle.

In use, the triangle is placed upon the drawing or tracing with its recessed face down and the rollers therefore in contact with the paper. The triangle may be freely shifted over the face of the paper in any direction and the rollers may roll over inked lines without blotting or spreading the ink because of the incapacity of the knife edge to pick up enough ink to make an appreci-

able mark. At the same time, the triangle may be held steadily in a given position without great downward pressure upon the same.

It will be understood that by the term "knife-edge" I do not mean an edge so sharp as to actually cut or groove the paper, but the term is used in contra-distinction to an edge possessing a flat convex or spherical periphery of appreciable or substantial width or area and in its most effective embodiment will be a knife edge that might be fairly accurately described as dull.

In Fig. 5, I have shown a modification in which the underside of the triangle or ruler *i* is hollowed out for lightness (forming in effect a single recess) and the edge *j* is brought to the desired proximity to the paper. A lip *k* is provided to facilitate picking up the triangle or ruler with the fingers. The wheels *m* are similar in construction and mounting to the wheels *h*.

In Fig. 6, I have shown a modified form of wheel *n*, in which a series of knife-edges *o* are arranged spirally like a spiral gear around the periphery of the wheel.

Other modifications will suggest themselves to the skilled mechanic, the embodiments hereinbefore described being merely illustrative.

While I have described the invention as applied to a triangle, it will be understood that it is also applicable to other analogous instruments, such as rulers, T-squares, section-liners, etc.

Having now fully described my invention, what I claim and desire to protect by Letters Patent is:

1. A drafting instrument comprising a plotter having ruling edges and members attached thereto projecting beyond the plane of one face of the plotter and adapted to freely roll upon the paper in all directions at any angle to said ruling edges, said members having parts of negligible area adapted to contact with the paper and parts immediately contiguous to the contact parts arranged at sharp angles thereto.

2. A drafting instrument comprising a plotter having ruling edges and knife-edged rollers each projecting beyond the plane of one face of the plotter and adapted to freely roll upon the paper in all directions at any angle to said ruling edges.

3. A drafting instrument comprising a plotter, having ruling edges, brackets, each

revoluble on the plotter on an axis at a right angle to the plane of extension of the plotter, and a knife-edged wheel revoluble on each bracket on an axis parallel to the plane of extension of the plotter and projecting beyond the plane of one face thereof.

4. A drafting instrument comprising a plotter having ruling edges, edges above the ruling edges to facilitate handling, and knife-edged rollers adapted to roll in any direction and supporting the plotter out of contact with the paper.

5. A draftsman's instrument comprising a

triangular plotter and knife-edged rollers located respectively near the three corners thereof and adapted to roll in any direction and support the plotter out of contact with the paper.

In testimony of which invention, I have hereunto set my hand at Wilmington, Del., on this 1st day of March, 1911.

FRANCIS I. DU PONT.

Witnesses:

G. L. NAYLOR,

WM. P. WHITE.

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