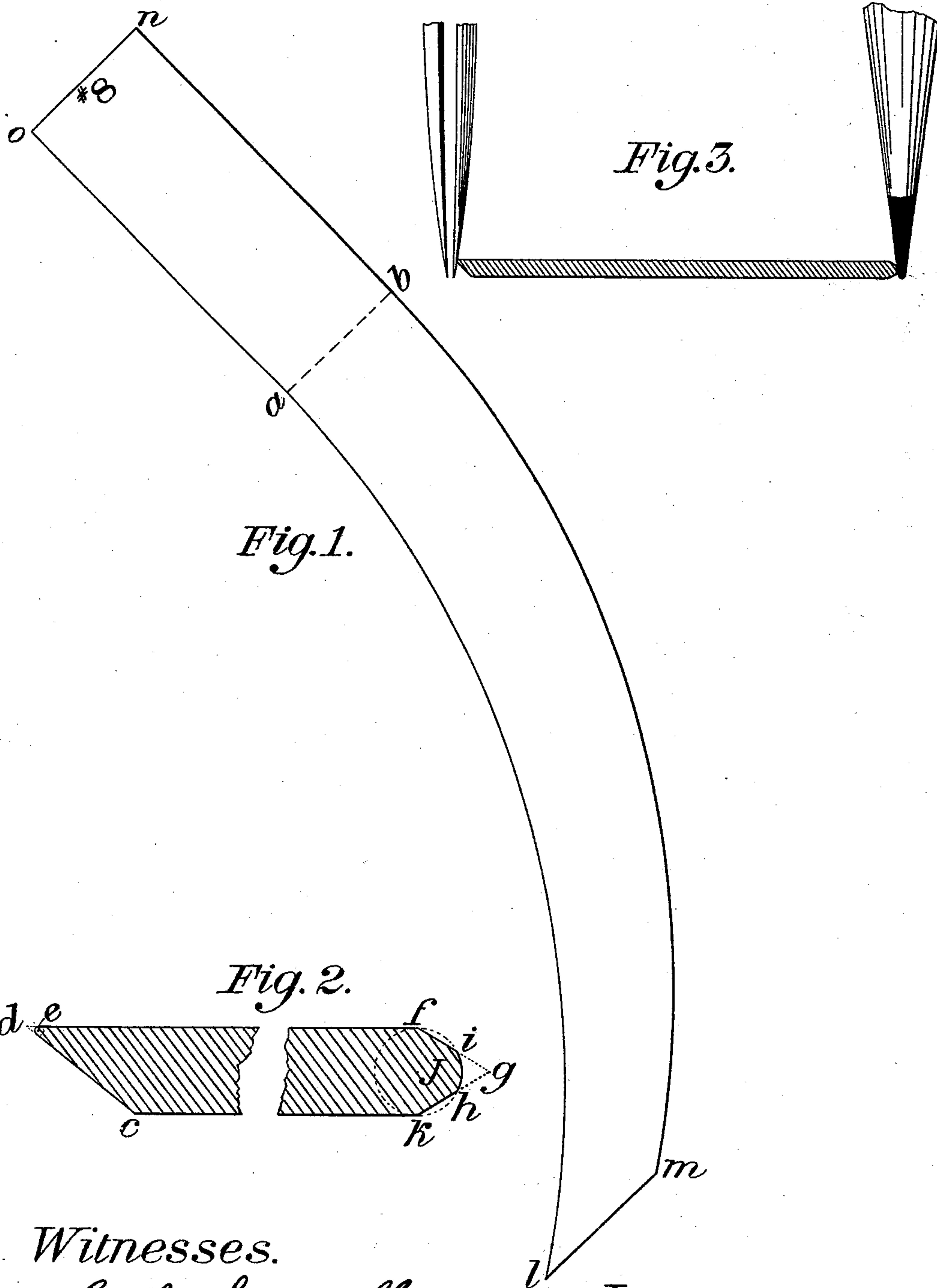


(No Model.)

F. C. STOWELL.
PLOTTER.

No. 509,335.

Patented Nov. 21, 1893.



Witnesses.

G. B. Stowell
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FRANK C. STOWELL, OF SOMERVILLE, MASSACHUSETTS.

PLOTTER.

SPECIFICATION forming part of Letters Patent No. 509,335, dated November 21, 1893.

Application filed January 16, 1893. Serial No. 458,466. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. STOWELL, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Drawing-Templet, of which the following is a specification.

My invention relates to improvements in draftsmen's circular templates (sometimes called railroad curves), the object of said improvement being a templet which, though made of thinner material than common, is still less liable to blot when used with a drawing or ruling pen than the templates in present use. I attain this object by the device illustrated in the accompanying drawings, in which—

Figure 1 is a plan view (full size) of a No. 8 templet *i. e.* a templet the radius of each curved edge of which is eight inches. Fig. 2 is a cross section (considerably enlarged) of a templet showing construction of the ruling edges. Fig. 3 is a cross section at the tangent points *a b* (Fig. 1) enlarged three times for purposes of greater clearness.

The templates in present use are made principally of hard rubber or wood, the stock from which they are cut varying from three thirty-seconds to three-sixteenths of an inch in thickness. This thickness is necessary for two reasons: first, strength; second, to avoid the danger of blotting when using a ruling pen filled with ink. On the other hand, since a complete set numbers from seventy-five to one hundred templates, this thickness becomes a great objection on the score of excessive bulk.

In contrast with present uses, I shall make my templates of metal, preferably of a compound of zinc and aluminum, though any suitable material having sufficient strength may be used. By using metal I shall be enabled to make a templet less than one-sixteenth of an inch in thickness, which will be stronger than the much more bulky curves made of wood or rubber or paper. A templet of the thickness I design if made on the lines of those in present use, would be useless owing to the certainty of blotting when using a ruling pen. To avoid this danger of blotting with a thin templet is the object of my in-

vention and I accomplish it by finishing my templates with specially beveled edges, instead of the vertical edges common in templates in present use.

I have designed two forms of beveled edges for each templet. These edges are best shown in Fig. 2 in which the thickness of the templet has been greatly magnified for the sake of clearer illustration. One edge of the templet is first cut on a suitable bevel of about forty-five degrees as indicated by the solid and dotted line *c d*. The sharp knife edge shown by the dotted lines at *d* is then trimmed off to a slightly blunter round edge indicated by the solid portion of the circle *e*. The finished edge of the curve is represented by the solid or full lines, the whole circle *e* being drawn simply to show by comparison the circular nature of the rounded edge of the templet. The other edge of the templet is cut with a double bevel or diamond shaped edge shown, Fig. 2, by full and dotted lines *f i g* and *g h k*. As before the sharp knife edge formed at *g* is cut away leaving the blunt round edge shown by solid part of circle *j*. As before the finished edge is represented by the solid or full lines, the complete circle being drawn simply to show the relation of the finished edge of the templet to a circle.

Respecting the object of two forms of ruling edge on each templet it is intended that in using the templates with a soft pencil for example, the blunt edge *j* will be used, as the sharper edge at *e* would cut into wood or lead. Again, specially fine line work should be done with edge *j*, as the pen guiding edge is nearer the paper than guiding surface *e* of the other edge of the templet. Lowering the guiding edge for fine line work will not be likely to cause blotting, as in such work it is not desirable to have the ruling pen very full of ink. The guiding edge *e* is raised as high from the surface of the paper as the thickness of the templet will admit and it is intended for all ordinary work with ruling pen and for complete safety in drawing heavy lines with pen heavily charged with ink.

The straight edges *a o* and *b n* Fig. 1 are respectively tangent to the curved edges *a l* and *b m* at the points *a* and *b*. These edges enable the draftsman to at once place the

templet so that its curved edge will be tangent to a straight line at any point on the latter that he may elect.

Fig. 3 is a cross section (enlarged three times) of templet Fig. 1 at the tangent points *a b*. It shows manner of using ruling pen and pencil on different edges of the templet as advised above. It is indifferent as to how the two forms of beveled edges are distributed between the convex and concave edges of the templet, as I finish both edges of a given templet with the same radius.

I am aware that circular templets terminating in a short piece of tangent at one end have been made before. Therefore I do not claim such broadly; but

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

A metallic circular templet in which both the concave and convex edges *a l* and *b m* have equal radii and terminate in short pieces *a o* and *b n* of tangent respectively, at one end of each curved edge; also in which one edge of said templet is cut on a single bevel *c d* of about forty-five degrees, the other edge on a double or diamond shaped bevel *f g h*, the acute or knife edges *d* and *g* of said bevels being rounded off or truncated by circular surfaces *e* and *i h* substantially in the manner described and for the purpose set forth.

FRANK C. STOWELL.

Witnesses:

G. B. STOWELL,
JOSEPH J. GILES.