

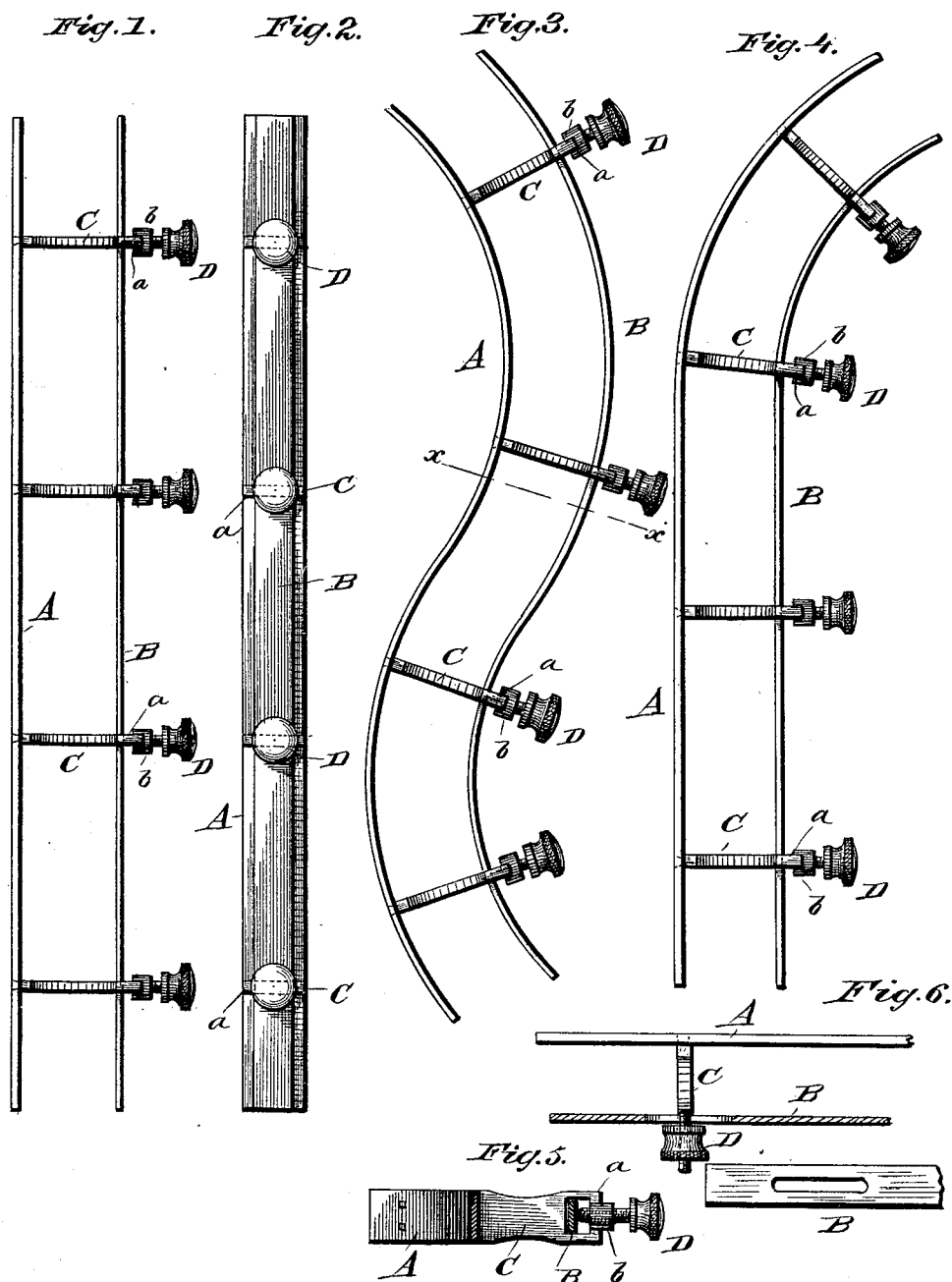
(No Model.)

J. H. DONAHUE & E. T. BRADLEY.

FLEXIBLE RULER.

No. 386,869.

Patented July 31, 1888.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JAMES H. DONAHUE AND EDWARD T. BRADLEY, OF SWANTON, VERMONT.

FLEXIBLE RULER.

SPECIFICATION forming part of Letters Patent No. 386,869, dated July 31, 1888.

Application filed April 16, 1887. Serial No. 235,120. (No model.)

To all whom it may concern:

Be it known that we, JAMES H. DONAHUE and EDWARD T. BRADLEY, citizens of the United States, residing at Swanton, in the
5 county of Franklin and State of Vermont, have invented certain new and useful Improvements in Flexible Rules; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable
10 others skilled in the art to which it appertains to make and use the same.

Our invention has relation to improvements in flexible rules, which improvements will be fully understood from the following description
15 and claims, when taken in connection with the annexed drawings.

The object of the invention is to provide a rule by means of which lines of any desired curvature may be laid off, and by which glass
20 and other material may be conveniently cut into semicircles and curves. These objects we accomplish by the devices shown in the accompanying drawings, in which—

Figure 1 is a plan view of our improved
25 rule, showing the same in a position to draw straight lines. Fig. 2 is a back view of the same. Fig. 3 is a view showing the rule in a position to lay off a compound curve. Fig. 4 is a view showing the device in a position to
30 draw a curve and straight line. Fig. 5 is a cross-sectional view taken in the plane indicated by dotted lines *xx* on Fig. 3. Fig. 6 is a detail view of a modification.

Referring by letter to the drawings, A indicates the rule or face strip, and B the back or
35 holder strip, either of which may be made of spring-steel, gutta-percha, rubber, or other suitable flexible material, which will permit of the same being bent into curvatures of any
40 desired configuration. To the inner or back side of this strip A and at desired points are placed fixed posts C, which are provided at their outer ends with a transverse guide-slot
45 for the passage of the slide bar B. The portions *a*, forming the outer transverse or vertical wall of these slots, are provided with integral enlargements *b*, which are screw-tapped, as shown, and are designed to receive the set-
50 screw D or other devices, whereby the said slide-strip may be fixed at any desired point with relation to the posts C. In use the device is placed so as to have the face-strip as well as the slide upon edge, and the posts hold the said strips at such a distance from each
55 other as to furnish a broad bearing for the

whole, where by simply pressing the hand upon it the operator may draw the line desired by passing his pen or pencil along the face or outer side of the strip A.

The binding-posts may be secured to the
60 face-strip by any suitable means. In the present construction we have shown them with projections on one end, which are let into apertures in the face-strip, where they are made fast. The normal position of the face strip is
65 straight, so that a true straight line may be drawn, and it will be seen that a straight line may be merged into a curve at either end or any suitable point of the strip; or a compound
70 curve or lines of any desired curvature may be formed by first loosening the thumb-screws or other devices and bending the strips in the desired direction, after which the screws may be tightened upon the back strip. It will
75 also be seen that the set-screws are so arranged as to permit them to be manipulated without displacing the device upon a board or the like.

It is obvious that the slide-strip or the face-strip may be graduated so that a curve of any
80 desired degree may be had.

Instead of having the slide-strip pass through slots in the posts, the strip itself may be slotted to receive the screws which secure the said strip against the posts at desired
85 points. This latter construction is more fully shown in Fig. 6 of the drawings.

When great strength and stiffness are required, we may use two slide-strips instead of one.

Having described this invention, what we claim, and desire to secure by Letters Patent, is—

1. As an improved article of manufacture, a rule or scribing device consisting of a flexible face-strip having guides on its rear side, a
95 flexible back strip movable in the said guides and set-screws, whereby the said strips may be fixed together in adjustably parallel curved positions, substantially as specified. 100

2. A rule having a flexible face-strip and guides fixed thereto, in combination with a flexible back adapted to be secured to the guides, substantially as specified.

In testimony whereof we affix our signatures
105 in presence of two witnesses.

JAMES H. DONAHUE.
EDWARD T. BRADLEY.
Witnesses: WILLIAM H. BLAKE, 2d,
RIGNY D. MARVIN.