

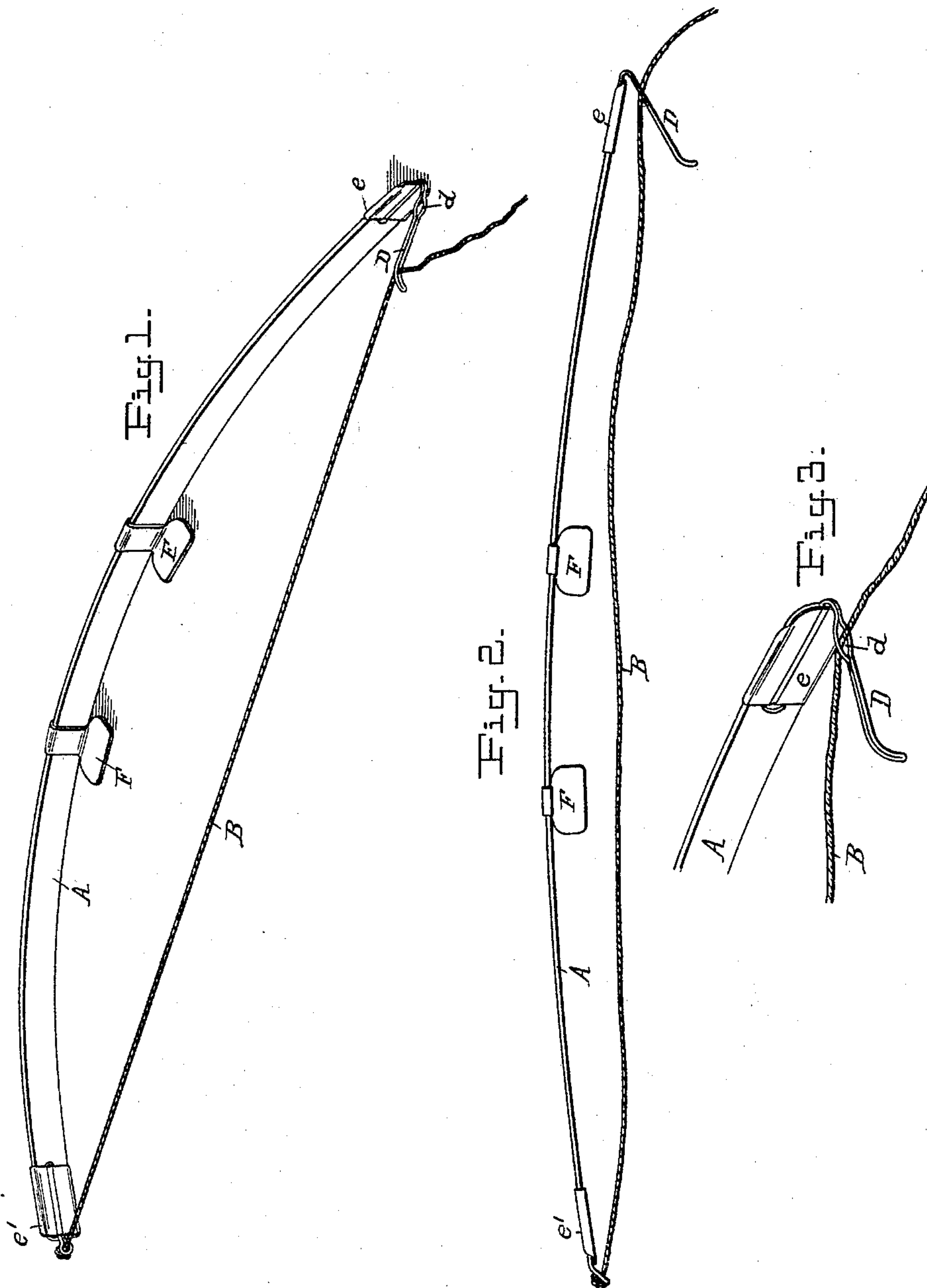
(No Model.)

2 Sheets—Sheet 1.

B. H. TOQUET.
FLEXIBLE RULER.

No. 412,904.

Patented Oct. 15, 1889.



WITNESSES:

E. J. Griswold
Robert T. Sanders.

INVENTOR

Benjamin H. Toquet
BY
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His ATTORNEYS

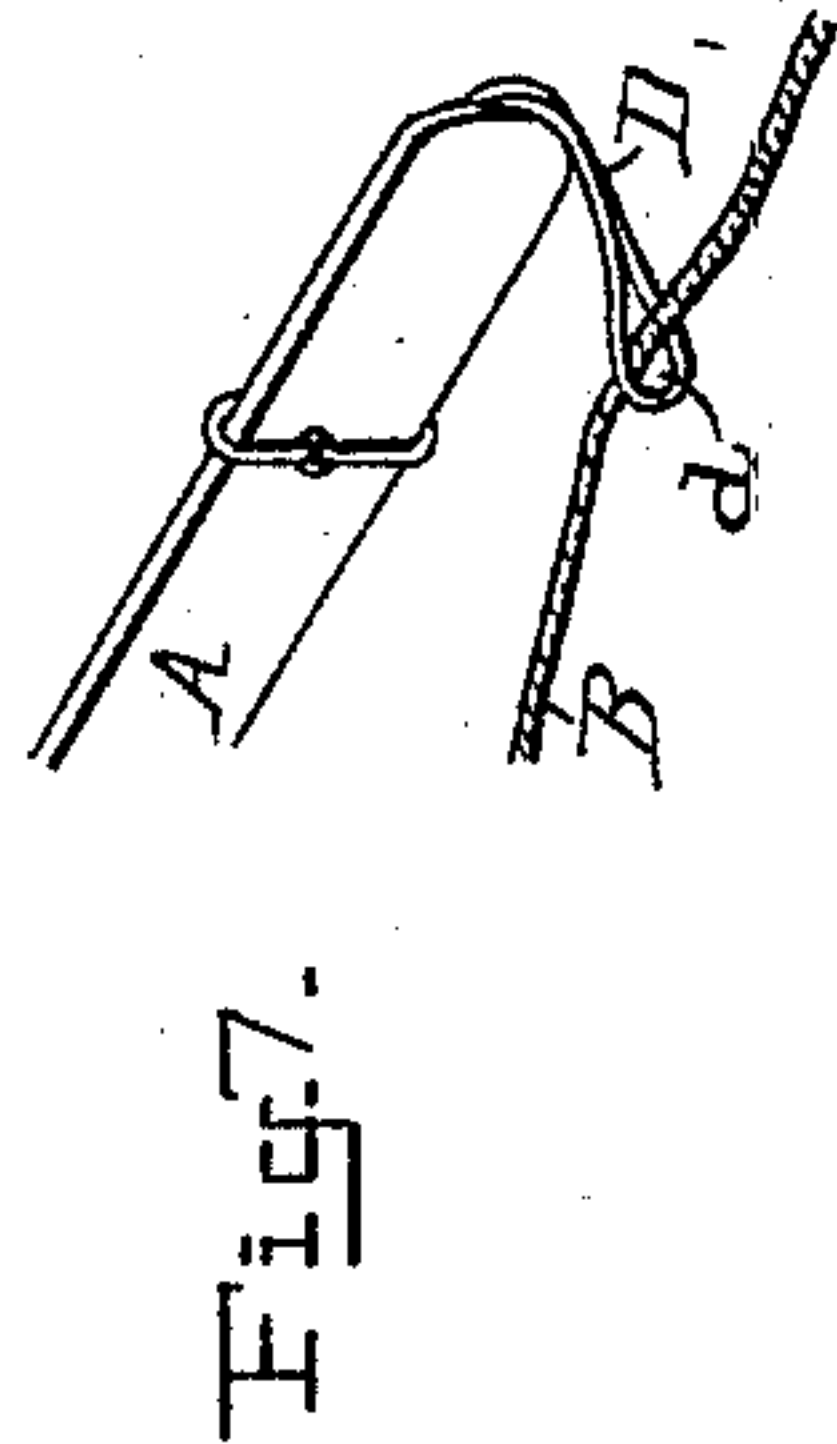
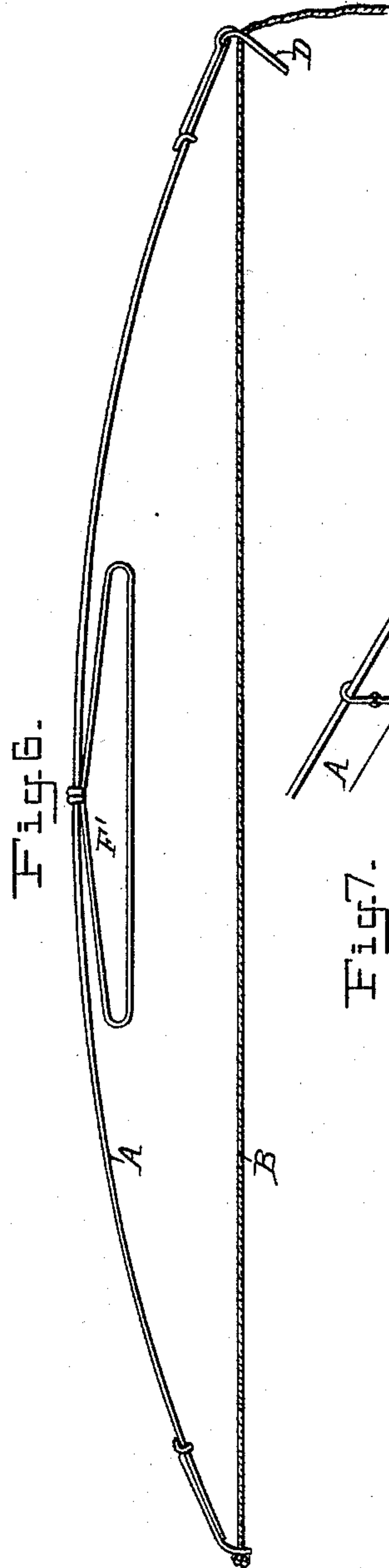
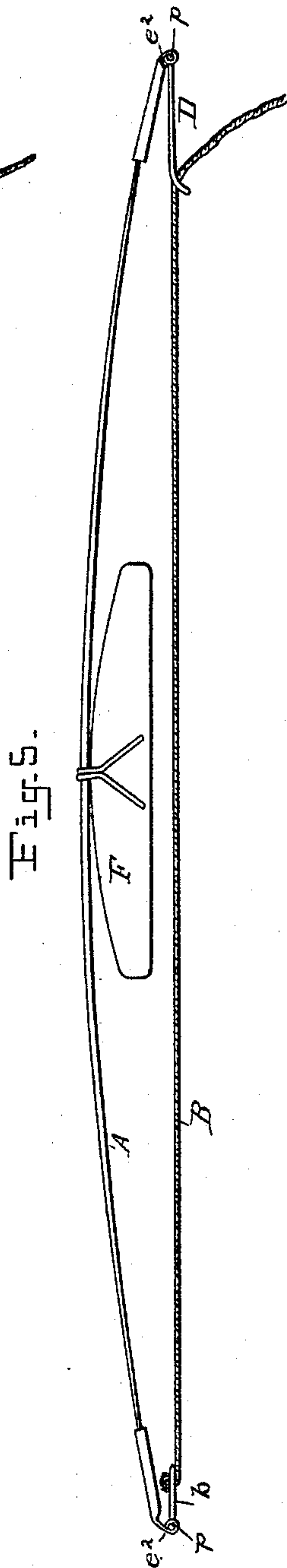
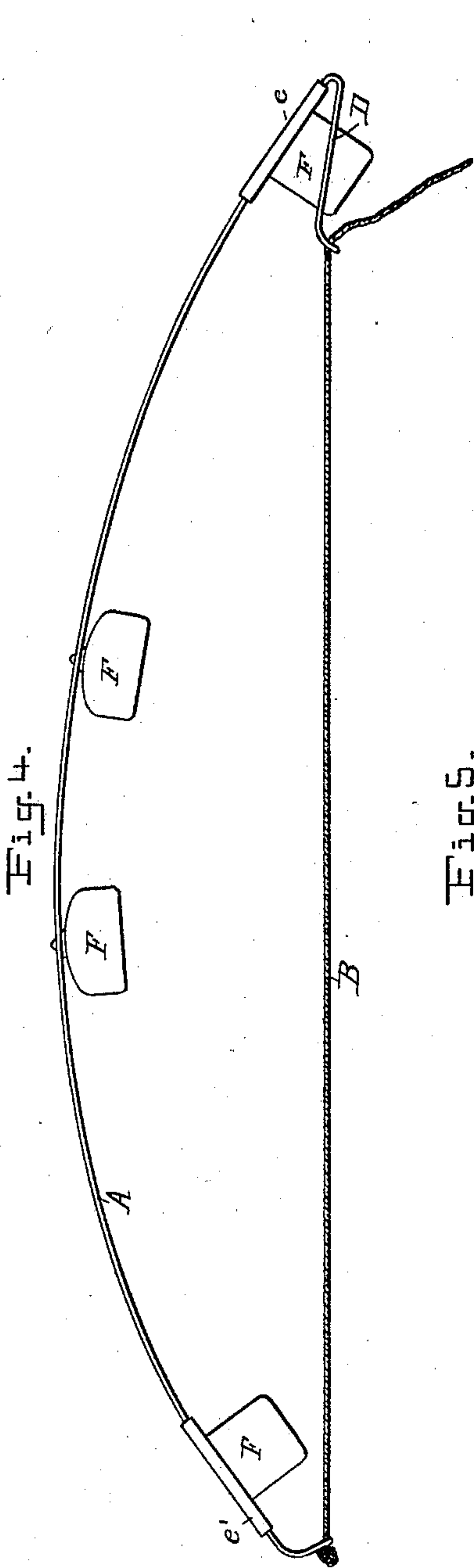
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B. H. TOQUET.
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WITNESSES:

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UNITED STATES PATENT OFFICE.

BENJAMIN H. TOQUET, OF WESTPORT, CONNECTICUT.

FLEXIBLE RULER.

SPECIFICATION forming part of Letters Patent No. 412,904, dated October 15, 1889.

Application filed February 27, 1889. Serial No. 301,350. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN H. TOQUET, a citizen of the United States, and a resident of Westport, Fairfield county, Connecticut, have invented an Improved Flexible Ruler, of which the following is a specification.

The object of my invention is to provide a simple and inexpensive flexible ruler for drawing curves of varying radii—a ruler which is more especially adapted for use in schools in drawing lines of longitude in maps, and for other purposes.

In the accompanying drawings, Figure 1 is a perspective view of one of my improved flexible rulers bowed to a curve. Fig. 2 is a plan view of the same with the tightening-cord freed. Fig. 3 is a perspective view, drawn to a larger scale, of the end piece by which the connecting-cord is gripped and held. Figs. 4, 5, and 6 are plan views of different modifications of my invention, showing the ruler as bent to different curves; and Fig. 7 is a perspective view, drawn to a larger scale, of a modified form of end piece or grip for the chord-string.

The flexible body A, which constitutes the ruler proper, is preferably formed of a thin strip of wood, hard rubber, celluloid, or similar elastic material, and to one end of this is connected by suitable means a flexible cord B, while at the other end of the body of the ruler is provided a gripping device to grasp and hold the flexible cord B at any suitable point to give the desired curve or arc to the ruler, the cord B then forming the chord of the arc. This cord B is, for convenience and inexpensiveness, preferably formed of string of comparatively small diameter, but strong. If preferred, a strip of leather or even a flexible chain may be used in its place; but whatever the material may be it is desirable that it should be adapted for use in connection with the simple form of gripping device which I will now describe. This gripping device consists, essentially, of spring-jaws carried by the end of the flexible ruler, and for convenience of manufacture these spring-jaws are formed of a doubled strip of wire D, Fig. 1, secured in any suitable manner to the end of the ruler A. This wire is secured to the end of the ruler-body by being passed through the wood or other material and bent, and pref-

erably also secured by a sheet-metal clip *e*, while the doubled end of the wire projects some distance beyond the end of the ruler, and is bent back, so that when the cord is tightened to give the desired curve to the ruler, as shown in Fig. 1, this doubled end of the wire will come more or less into line with the tightened cord, since the flexibility of the wire grip accommodates itself to the pull of the cord to a large extent. The portion of the doubled wire extending beyond the end of the body of the ruler has its two portions compressed tightly together, except at one point, where they are separated or widened out to form an eye *d*. The flexible tightening-cord B is passed through this eye, as shown in Fig. 3, in tightening or freeing it; but when it is desired to hold the ruler at any curve the cord is drawn down into the compressed part of the doubled wire, which thus forms spring-gripping jaws to firmly hold the cord, as shown in Fig. 1. As a convenient means of connecting the opposite end of the cord to the end of the ruler, a piece of bent wire, forming a loop, may be secured to the end of the ruler by means of a clip *e'*, as shown in Fig. 1. I also provide the body of the ruler with a foot-piece or foot-pieces F, by which the ruler may be conveniently held steady with the fingers while it is being used on the paper. In Figs. 1 and 2 I have shown these foot-pieces or holding-pieces as consisting of bent sheet metal. In Fig. 4 I have shown them as provided at the ends of the ruler, as well as nearer toward the center.

In the modification, Fig. 5, I have shown a single larger foot-piece to take the place of the two separated foot-pieces shown in Figs. 1 and 2.

In the modification illustrated in Fig. 6 the foot-piece is shown as consisting of an open frame F' of wire.

In the modification illustrated in Fig. 5 the gripping-jaw D at one end of the ruler and the connecting-loops *b* at the other end of the ruler are shown as pivoted at *p* to sheet-metal clips *e*² on the ends of the ruler, instead of being secured directly to the ruler itself. If desired, the body of the ruler may be made thickest at the center and gradually tapering toward each end, as shown in Fig. 5.

In Fig. 7 I have shown the eye *d* of the

gripping-jaws D as at the outer end of the bent wire, instead of nearer the end of the ruler-body. The manipulation in this case is the same as that described above, except that to
5 grip the cord it is drawn toward the end of the ruler from the eye, instead of in the opposite direction, as is the case in the constructions before set forth.

It will be understood that the above-described device may be applied to other uses
10 besides that of curved rulers. For instance, by the omission of the foot-pieces and with or without a change in the proportions of the flexible body A the device may be used as a
15 bow for shooting arrows.

I claim as my invention—

1. A flexible ruler consisting of a flexible body forming the ruler proper and a flexible cord secured to one end of the said flexible

body, which has at the other end gripping- 20 jaws consisting of a doubled wire with an eye for the passage of the cord, all substantially as set forth.

2. A flexible ruler consisting of a flexible body forming the ruler proper and a flexible 25 cord connected to one end of said flexible body, which has at the other end jaws for the cord and a foot-piece or foot-pieces upon the body, all substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 30

BENJAMIN H. TOQUET.

Witnesses:

EDITH J. GRISWOLD,
S. C. CONNOR.