

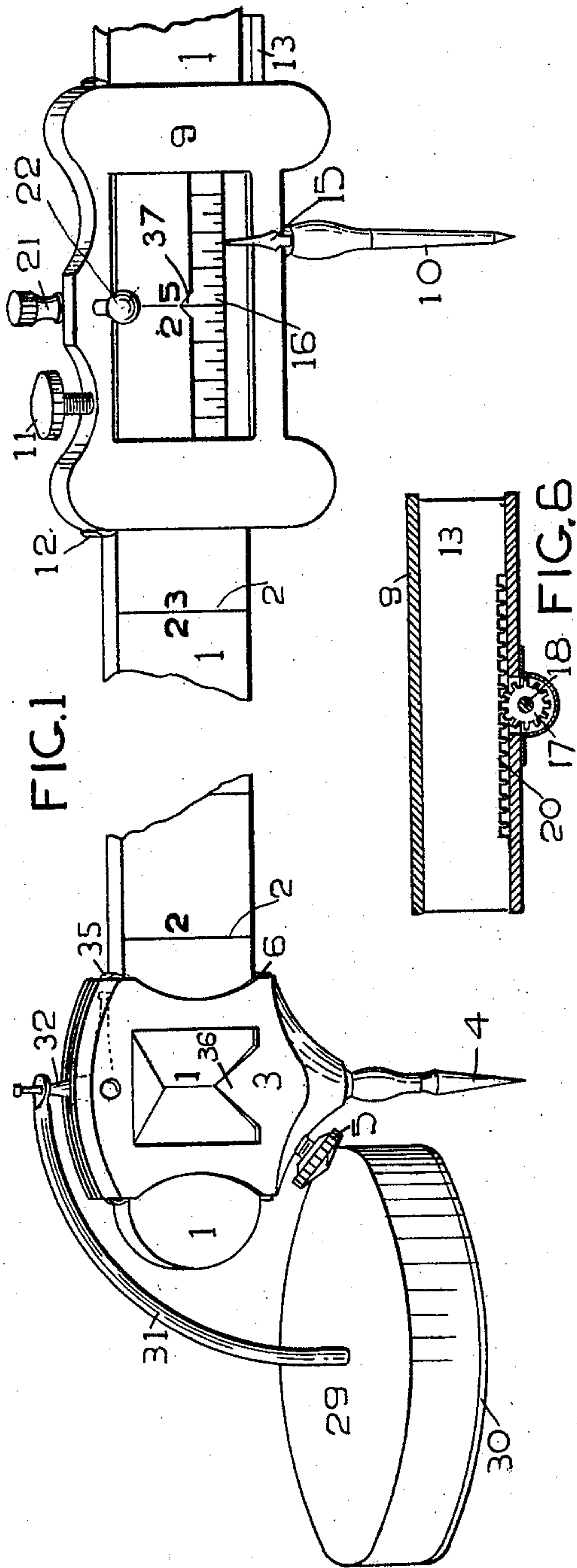
No. 691,827.

Patented Jan. 28, 1902.

G. TUCKER.
BEAM COMPASSES.

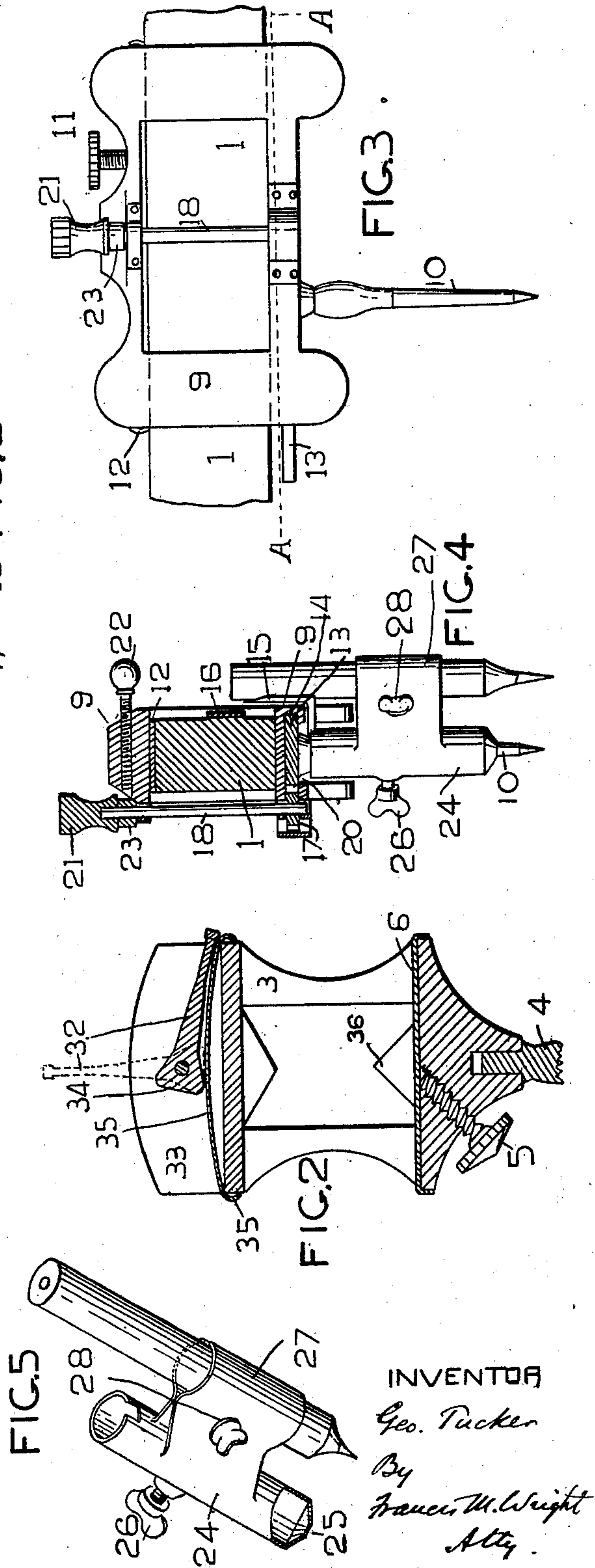
(Application filed June 17, 1901.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

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BEAM-COMPASSES.

SPECIFICATION forming part of Letters Patent No. 691,827, dated January 28, 1902.

Application filed June 17, 1901. Serial No. 64,956. (No model.)

To all whom it may concern:

Be it known that I, GEORGE TUCKER, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Beam-Compasses, of which the following is a specification.

My invention relates to an improvement in beam-compasses, the object of my invention being to provide an apparatus of this character which shall be more convenient and accurate in operation than those hitherto in use.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a broken perspective view of my improved beam-compasses. Fig. 2 is an enlarged longitudinal vertical section of the carrier for the pivotal end thereof. Fig. 3 is a rear view of the outer carrier thereof. Fig. 4 is a vertical cross-section of the latter, showing the pencil-holder on the trammel-point. Fig. 5 is a detail showing the pencil-holder detached. Fig. 6 is a horizontal section on the line A A of Fig. 3.

Referring to the drawings, 1 represents the stick for carrying the trammel-points, suitably graduated, as shown at 2. At its pivotal end there is mounted upon said stick a carrier 3, carrying the inner or pivotal trammel-point 4, said carrier being adapted to be clamped in any desired position on said stick by means of the set-screw 5, working against a plate 6. At the outer or free end there is adjustably mounted upon said stick 1 the carrier 9 for the outer trammel-point 10. Said carrier 9 is adjustably secured upon the stick by means of the set-screw 11, working against a metallic plate 12. The trammel-point 10 is secured to a slide 13, sliding in the lower part of the said carrier in a groove 14, said point carrying a pointer 15, which moves over a scale 16, graduated in divisions of any desired minuteness. The slide 13 is reciprocated by means of a pinion 17 on a vertical shaft 18, being provided with a suitable milled head 21 for turning the same. After the point has been set in the required position it may be positively held in said position by means

of a set-screw 22, engaging a collar 23 on said shaft. When it is desired to set the outer point at any predetermined distance from the inner, the carrier 9 is moved along the stick, so that the point is at approximately the position desired, and after the carrier has been clamped on the stick the slide is moved by means of the rack and pinion to carry the point to the exact position desired, when it is clamped by means of the set-screw 22. For the purpose of securing the carriers at the desired position on the stick the slides 3 and 9 are provided with stationary pointers 36 37, the pointer 36 being formed on the carrier 3 itself, while the pointer 37 is formed upon the scale 16. These pointers may be brought to coincide with the marks 2 on the stick to adjust the carrier to any desired position.

In beam-compasses as at present constructed it is the common practice to remove the scribing-point when it is desired to draw an arc with a lead-pencil and substitute a pencil-holder. In my improved beam-compasses I provide a pencil-holder which can be clamped onto the scribing-point itself, thereby avoiding the necessity of removing the latter. Said pencil-holder comprises a tube 24, adapted to fit around the scribing-point 10, said tube being closed at one end except for a small aperture 25, through which the scribing-point passes. The point 10 is clamped in said tube by means of the set-screw 26. Said tube carries a clamp for the pencil comprising two curved plates 27, soldered or otherwise secured to said tube and drawn firmly together against the sides of the pencil by means of the clamping-screw 28.

It has been heretofore found necessary, especially when arcs of long radius have to be described, to employ an assistant to support in an upright position the central or pivotal trammel-point. I have provided means for obviating this necessity, said means comprising a heavy base 29, preferably of lead, suitably padded on its lower surface, as shown at 30, and a curved arm 31, extending upward from said base and apertured at its upper end. An arm 32 is pivotally mounted, as shown at 33, in the upper portion of the carrier 3, the broad rear end 34 of said carrier abutting against a loose spring 35. Said spring 35 thus retains the arm 32 either in a vertical posi-

tion when it is required to use the means for supporting the pivotal end or in a horizontal position out of the way when not in use.

I claim—

5 1. The improved beam-compasses comprising a stick, an inner or pivotal trammel-point secured thereon, an upwardly-extending arm supported by the stick, a heavy base, and a bent arm extending from said base and en-
10 gaging the aforesaid arm to serve as an independent support for the pivotal end of the trammel-points, substantially as described.

2. The improved beam-compasses comprising a stick, a carrier mounted on the stick,
15 an inner or pivotal trammel-point carried by said carrier, an arm pivotally mounted on the carrier, a spring for holding said arm in either an upright or horizontal position, a heavy base, and a bent arm extending from said base
20 and adapted to engage the aforesaid arm to form an independent support for the pivotal end of the trammel-points, substantially as described.

3. An improved beam-compass, comprising
25 a graduated stick, a carrier movably mounted on said stick, a scale on said carrier, said scale having a pointer arranged to register with the

graduations on the stick, a slide sliding in said carrier, a point carried by said slide, a pointer carried by said slide and moving over
30 said scale, a rack on said slide, a vertical shaft provided at its upper end with a milled head to drive the same and having on its lower end a pinion to engage said rack, substantially as described. 35

4. An improved beam-compass comprising a carrier, a scribing-point carried by said carrier, and a pencil-holder removably secured on said scribing-point, said pencil-holder comprising a tube attached to fit around the scrib-
40 ing-point, means for clamping said tube in position on the scribing-point, curved plates extending from said tube, and independent means for drawing said plates together to clamp a pencil therebetween, substantially as
45 described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE TUCKER.

Witnesses:

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