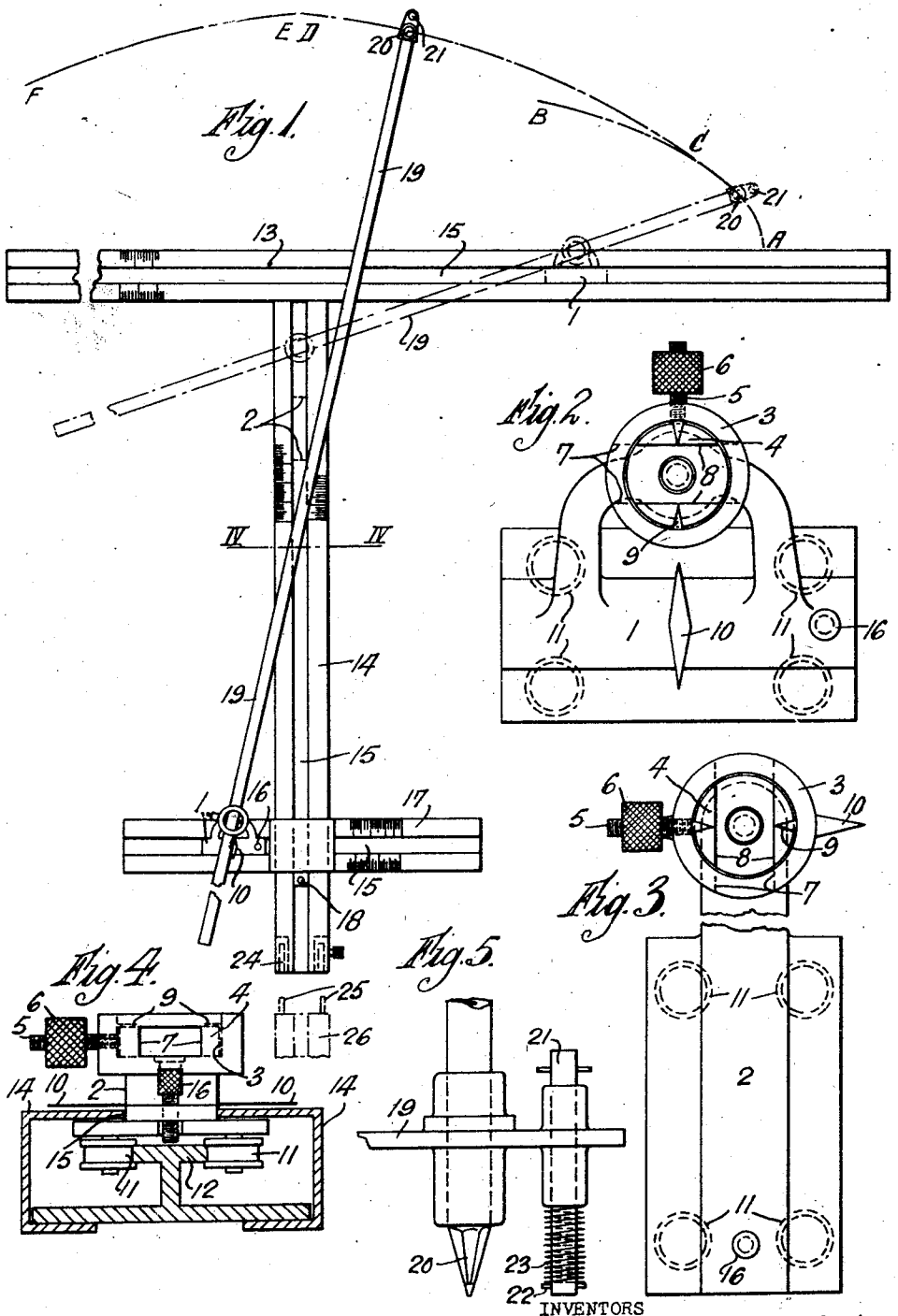
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DRAWING INSTRUMENT

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DRAWING INSTRUMENT.

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Ellipsographs and like instruments commonly comprise a frame having two grooves at right angles to one another, a slide in each groove and an arm carrying a pencil or the like pivoted to both slides.

According to this invention an ellipsograph or the like is formed of two grooved rules, one of which is arranged to slide on the other, whereby a portion of an ellipse or an arc of a circle can be drawn and combined with a portion of another ellipse or an arc of a circle. The pivoted members on the slides carrying the pencil arm are such that the arm can slide therein but can be rendered fast therewith.

In one method of carrying out the invention, an instrument comprises two fixed grooved rules at right angles to each other and a slidable grooved rule, while the slides are provided with means for rendering one or other slide fast in its groove, whereby other curves can be drawn with the instrument.

In the accompanying drawings which illustrate the invention, Figure 1 is a plan, Figure 2 a detail plan of a slide, Figure 3 a detail plan of a second slide, Figure 4 a section on the line IV—IV, Figure 1, and Figure 5 a detail elevation.

1, 2, are slides pivotally mounted on each of which is a guide 3, within which is loosely mounted a block 4, the said block being provided with a screw 5 which passes through the guide 3 and is provided with a locking ring 6. Each guide 3 and block 4 is slotted at 7, 8, respectively, while the guide 3 is provided with a pointer 9, and each slide 1, 2, is provided with a pointer 10. The slides 1, 2, are provided with rollers 11 which are adapted to run on tracks 12 formed on rules 13, 14, mounted at right angles to each other, while grooves 15 formed in the said rules are engaged by the slides 1, 2. The slides 1, 2, are each provided with a locking screw 16 which, when in the locking position, bear upon the tracks 12. 17 is a third rule which is adapted to slide upon either of the rules 13, 14, the said rule 17 being also provided with a track 12, and with grooves 15. The rule 17 is provided with a locking screw 18. 19 is an arm which is adapted to pass through the slots 7, 8, in the guides 3, and the blocks 4, the said arm being provided at one end with a marking instrument, such as a pencil 20, or with a cutting instrument, such as a diamond for cutting glass, and with a rod 21 between a pin 22 on which and the arm 19 is interposed a spring 23, the rod 21 and spring 23 serving to relieve the pencil or cutting instrument of a portion of the weight of the arm 19. The outer extremity of each rule 13, 14, is provided with means, such as the sockets 24, which are adapted to receive plugs 25 on extensions 26 whereby the length of the rules 13, 14, may if desired be increased. The rules 13, 14, and 17, and the arm 19 may be marked with the English system of linear measurement on one side, and on the other side with the metric system, the reading being made against the pointers 9, 10.

In operation, when for example it is desired to form a curve of the elliptic-Gothic type, the elliptic portion A—B on each side of the centre line of the curve is formed by allowing the slides 1, 2, to move freely along the rules 13, 14, (as shown in dotted lines in Figure 1), the arm 19 having been set in the desired position and prevented from moving longitudinally relatively to the said slides by the locking rings 6. The portion C—D (i. e. the Gothic portion) is produced by removing the slide 1 from the rule 13 and sliding it upon the rule 17 (which is locked in the desired position by the screw 18) until the desired position is reached (as shown in full lines in Figure 1), whereupon the said slide is locked by its locking screw 16. The arm 19 is then slid through the slotted portions 7, 8, of the guide 3 and block 4 and locked by the ring 6 when the desired position is reached. The portion C—D is then produced. The slide 1 is then placed upon the other side of the rule 17 and the Gothic portion E—F of the curve produced, whereby a complete elliptic-Gothic curve is obtained.

It is obvious that the instrument may be employed for other curves, such as true elliptical curves, in which case movement of the slides 1, 2, in the rules 13, 14, is completed.

The instrument may also be used as a beam compass by fixing one of the slides 1, 2.

What we claim is:—

1. In a drawing instrument, the combination of a pair of rules at right angles to each other, a third rule adapted to slide on either of said first mentioned rules, slides adapted to slide on any of said rules, pivotal members on said slides, an arm adapted to slide in said pivotal members, means adapted to

render said arm fast with any of said pivotal members, and means for marking or cutting carried by said arm.

2. In a drawing instrument, the combination of a pair of rules at right angles to each other, a third rule adapted to slide on said first mentioned rules, means for rendering fast said third rule to the one of the first mentioned rules on which it is positioned, slides adapted to slide on said rules, means for rendering fast said slides to any of said rules, pivotal members on said slides, an arm adapted to slide in said pivotal members, means adapted to render said arm fast with any of said pivotal members, and means for marking or cutting carried by said arm.

In testimony that we claim the foregoing as our invention, we have signed our names this first day of December, 1925.

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