

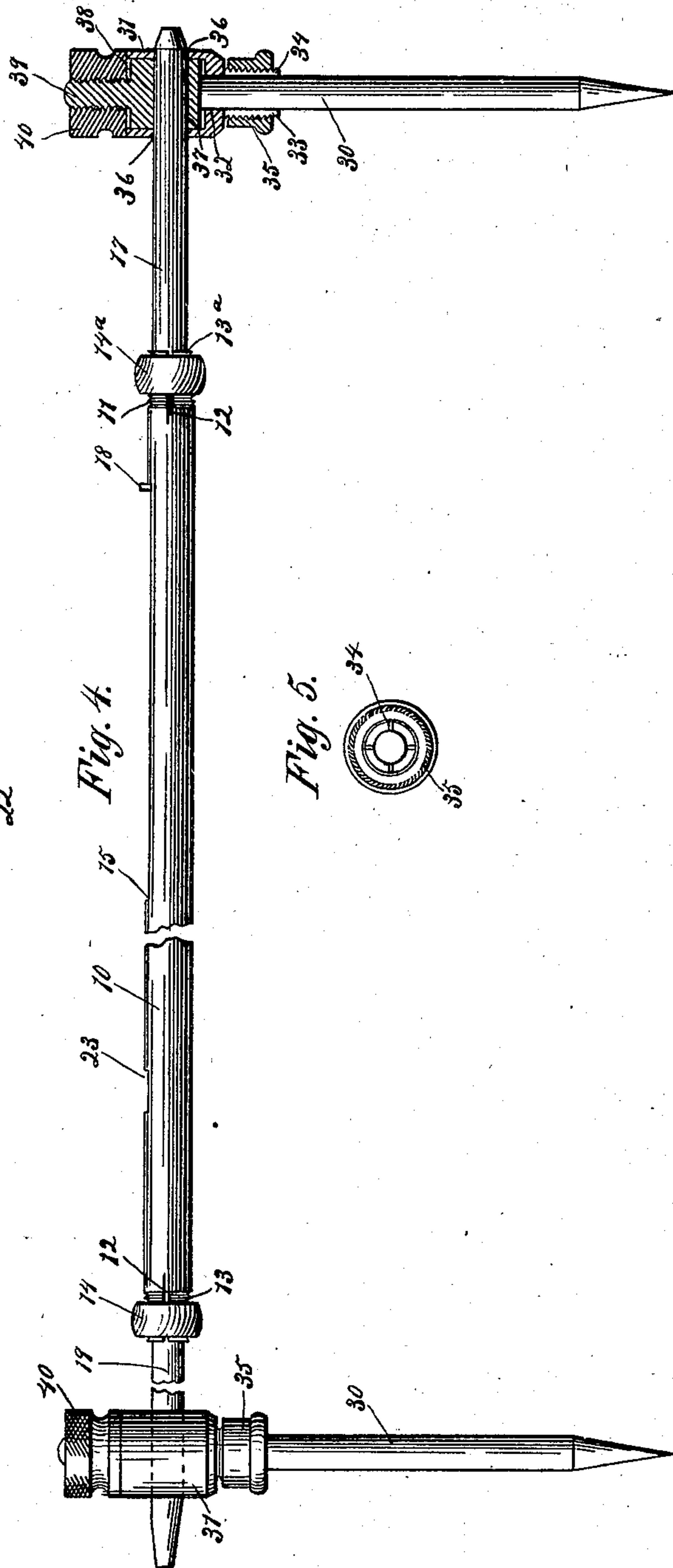
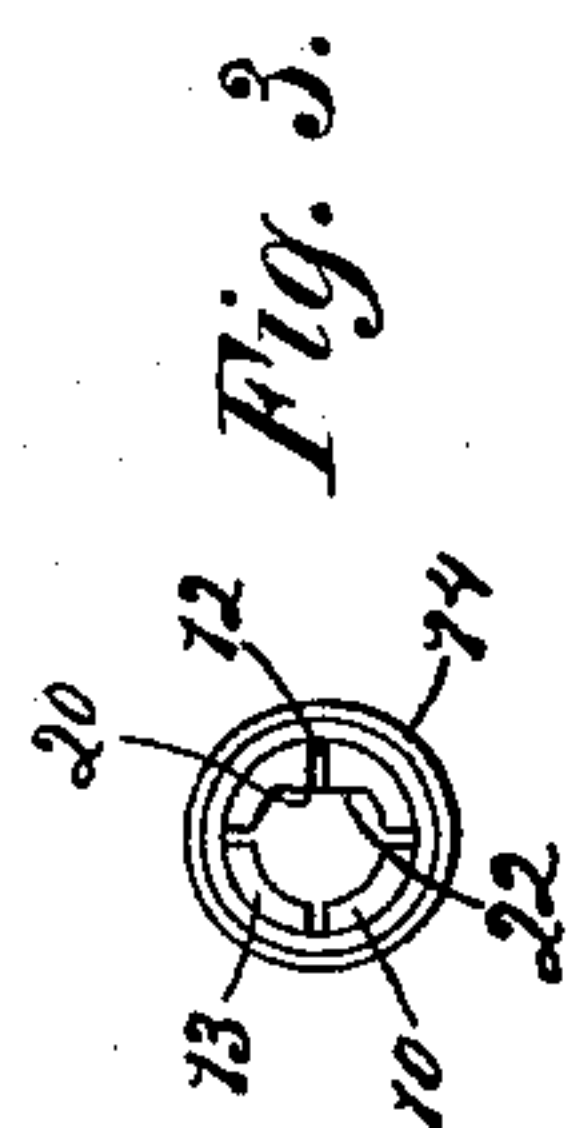
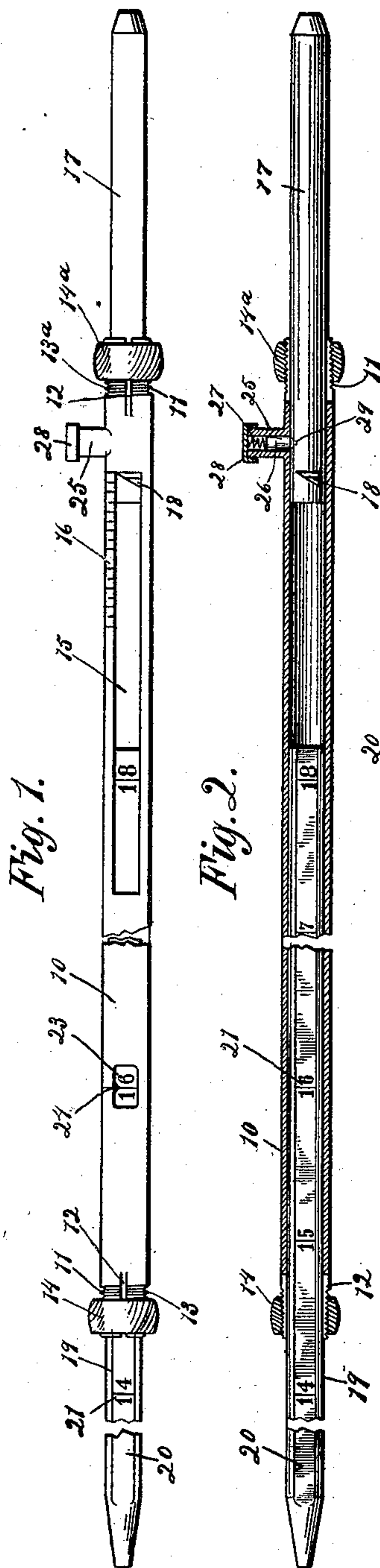
No. 695,661.

Patented Mar. 18, 1902.

A. K. THEIBAUT.
CALIPER GAGE.

(Application filed Jan. 2, 1902.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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CALIPER-GAGE.

SPECIFICATION forming part of Letters Patent No. 695,661, dated March 18, 1902.

Application filed January 2, 1902. Serial No. 88,194. (No model.)

To all whom it may concern:

Be it known that I, ALBERT K. THEIBAULT, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Caliper-Gages, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

10 This invention relates to improvements in caliper-gages, and has for its object to provide an instrument of this character which shall be simple in construction, inexpensive of manufacture, and easy of manipulation.

15 The invention consists of the novel construction and combination of parts hereinafter more fully set forth, and particularly pointed out in the claims, and is illustrated in the accompanying drawings, in which—

20 Figure 1 is an elevation of a caliper-gage constructed in accordance with my invention. Fig. 2 is a longitudinal section of the same, parts of the device being shown in full lines. Fig. 3 is an end view of the caliper-gage looking from the left of Fig. 1. Fig. 4 is a side elevation of the caliper-gage provided with trammel-points, and Fig. 5 relates to a detail of the clamping device for the trammel-points.

25 10 indicates a tube or barrel the ends of which are externally threaded, as at 11, and provided with longitudinal slits 12, so as to form clamping-fingers 13 and 13^a. Threaded upon the said ends are milled nuts 14 and 14^a.

30 In one side of the tube 10 and near one end thereof is a longitudinal slot or sight-aperture 15, having at one edge a graduated scale, as 16. Sliding in the end of the tube adjacent to the slot 15 and adapted to be held in any desired position by means of the clamping-fingers 13^a and nut 14^a is a stem 17, having near its inner end a boss 18. This boss projects through the longitudinal slot 15 and in addition to forming a pointer for the graduations 16 also provides a thumb or finger piece by means of which the stem 17 may be adjusted in the tube when the nut 14^a is loosened.

35 Fitting in the end of the tube 10 opposite that in which the stem 17 is located is a second and longer stem 19. The upper face of the stem 19 is flattened, as at 20, and provided with suitable graduations, as 21. The

rotation of the stem 19 in the tube is prevented by the flat side 20 thereof and a complementary flattened portion 22 of the tube 10, as shown in Fig. 3. This end of the tube is also provided with a slot or sight-aperture 23, into which extends a pointer 24 for the graduations on the stem 19.

40 Near the end of the tube in which the stem 17 is located is a sleeve 25, opening through the wall of the tube and having seated therein a pin 26, forced inwardly by a spring 27, reacting between the said pin and a cap 28, screwed upon the sleeve. This pin 26, which is provided with a conical end, is adapted to engage a tapering recess 29 in the stem 17, which engagement takes place when the stem 17 is moved to the limit of its outward movement, such movement being governed by the finger-piece 18 and the wall of the slot 15 adjacent to the end of the tube in which the stem 17 is located, and the tension of the spring 27 is intended to be sufficient to cause the pin 26 to force the stem to the limit of its outward movement as soon as the conical end of the pin engages the tapered side of the recess 29 in case the stem is not moved quite far enough by the operator.

45 In taking internal measurements the nut 14 is first loosened and the stem 19 set to the approximate diameter of the bore or aperture being measured and then clamped by the nut 14 in that position. The stem 17 is then moved outwardly until its point comes in contact with the opposite side of the bore and secured by the nut 14^a. If, for instance, the internal diameter of the object is fourteen and one-half inches, the pointer of the stem 19 is set at "15," and the pointer of the stem 17 will then indicate, when the latter stem is moved so as to engage the opposite wall of the bore, one-half inch on the scale 16, it being assumed that the gage is of such proportions as to secure this measurement by the adjustment described. In adjusting the stem 17 the boss 18, from which the pointer extends, is engaged by the finger or thumb of the hand in which the tube is held to slide the said stem, thereby greatly facilitating the manipulation of the gage, it often being difficult to use both hands, as when taking internal measurements of an object having a contracted mouth.

In Fig. 4 the caliper-gage is shown pro-

vided with a pair of trammel-points, as 30. Looking at the clamp illustrated at the right-hand end of Fig. 4, 31 indicates a cylindrical cup having an aperture 32 in the bottom and
 5 a sleeve 33, projecting from below the aperture. This sleeve has longitudinal slits 34 at its free end, which end is externally threaded to receive a nut 35, by means of which the pin 30 is removably clamped in the sleeve.
 10 The cup 31 is provided in the opposite sides thereof with apertures 36, adapted to register with a diametrical aperture 37 in a block 38, seated in the cup 31, and provided with an upwardly-extending threaded portion 39,
 15 upon which is placed a nut 40. As shown, the stem is passed through the registering apertures of the cup 31 and block 38 and the nut 40 then turned up on the threaded portion of the block 38 until it bears against the
 20 rim of the cup, this action tending to separate the cup and block, and thereby securely clamping them on the stem.

I claim as my invention--

1. In a caliper-gage, in combination, a tube
 25 having a longitudinal slot provided with graduations at the side thereof, a stem located in the end of the tube adjacent to the slot and having a pointer for the said graduations, a second stem located in the opposite
 30 end of the said tube and provided with graduations, a sight-aperture in the tube through which the graduations of said stem are visible, and means for securing the said stems against movement.

35 2. In a caliper-gage, in combination, a tube having a longitudinal slot, a stem sliding in one end of the tube and having a finger-piece projecting through the said slot, a second stem located in the opposite end of the said tube
 40 and provided with graduations, a sight-aperture in the tube through which the graduations of the stem are visible, the ends of the said tube being slitted, and nuts for clamping the slitted ends about the stems.

45 3. In a caliper-gage, in combination, a tube having a longitudinal slot provided with graduations along one edge thereof, a stem

sliding in the end of the tube adjacent to the slot and having a pointer for the said graduations and a tapering recess in one side, a cap- 50 closed sleeve opening through the wall of the tube, a spring-pressed pin seated in said sleeve and having a conical point adapted to engage the recess in the stem, a second stem located in the opposite end of the tube and 55 provided with graduations, a sight-aperture in the tube through which the stem-graduations are visible, and means for securing the stems against movement.

4. In a caliper-gage, in combination, a tube 60 having a longitudinal slot provided with graduations at the side thereof, a stem located in one end of the tube and having a pointer which plays in the slot, a second stem located in the opposite end of the tube, tram- 65 mel-points, a clamp for securing a trammel-point to each stem and which comprises a cup having apertures at opposite sides thereof and a block having a threaded portion projecting therefrom and a diametrical aperture 70 adapted to register with the apertures in the cup, and a nut screwed upon the threaded portion to slide the block in the cup to secure the stem passing through the apertures 75 of the cup and block.

5. In a caliper-gage, in combination, a tube, a stem sliding into each end of the tube, nuts on the ends of the tube to clamp the stems against movement, a trammel-point for each 80 of the said stems, a cup to which each trammel-point is secured and having apertures through opposite sides thereof, a block located in the cup and having a diametrical aperture registering with the apertures in the cup, and through which apertures the stem 85 passes, a threaded portion projecting from the block, and a nut upon the threaded portion adapted to be screwed against the upper end of the cup to clamp the trammel-point to the stem.

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Witnesses:

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