

No. 646,783.

Patented Apr. 3, 1900.

L. YOUNG & J. L. RYAN.  
CALIPER COMPASSES.

(Application filed Nov. 24, 1899.)

(No Model.)

Fig. 2.

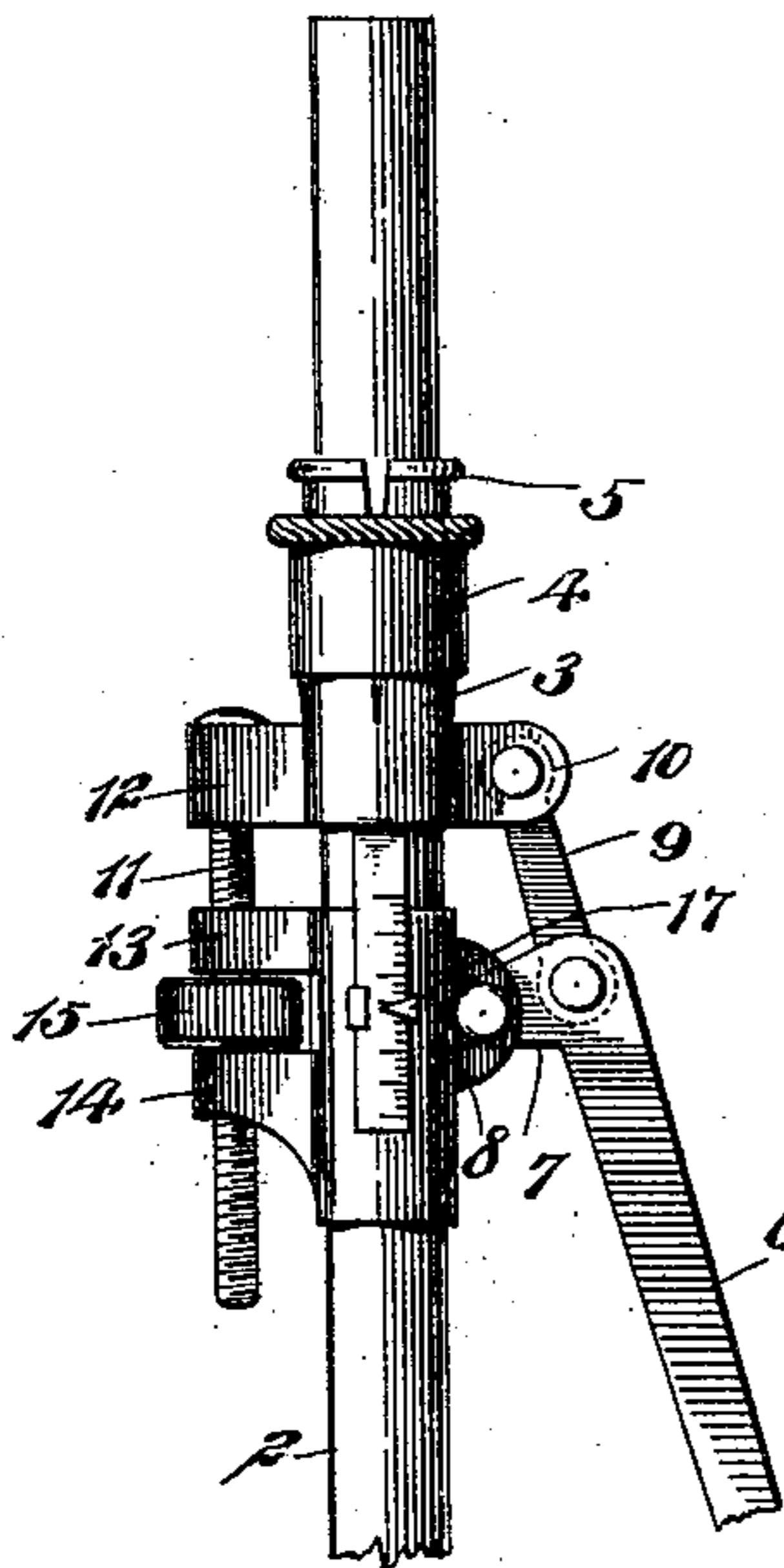


Fig. 1.

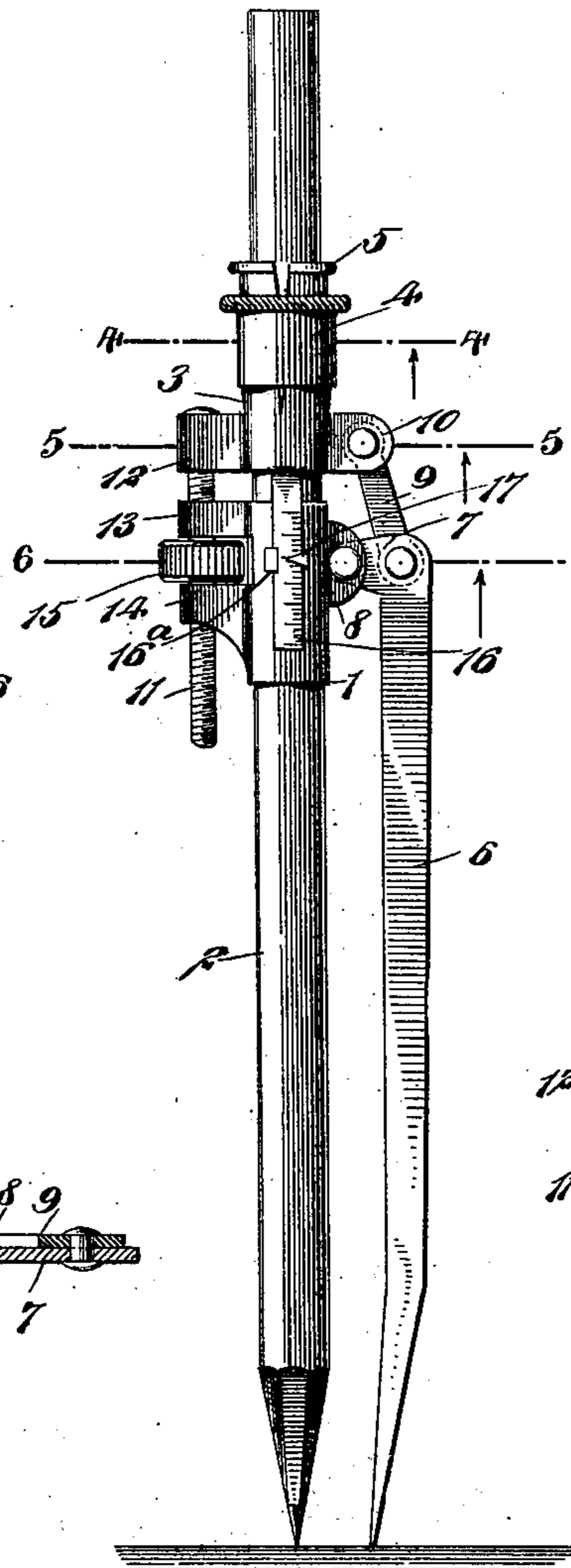


Fig. 3.

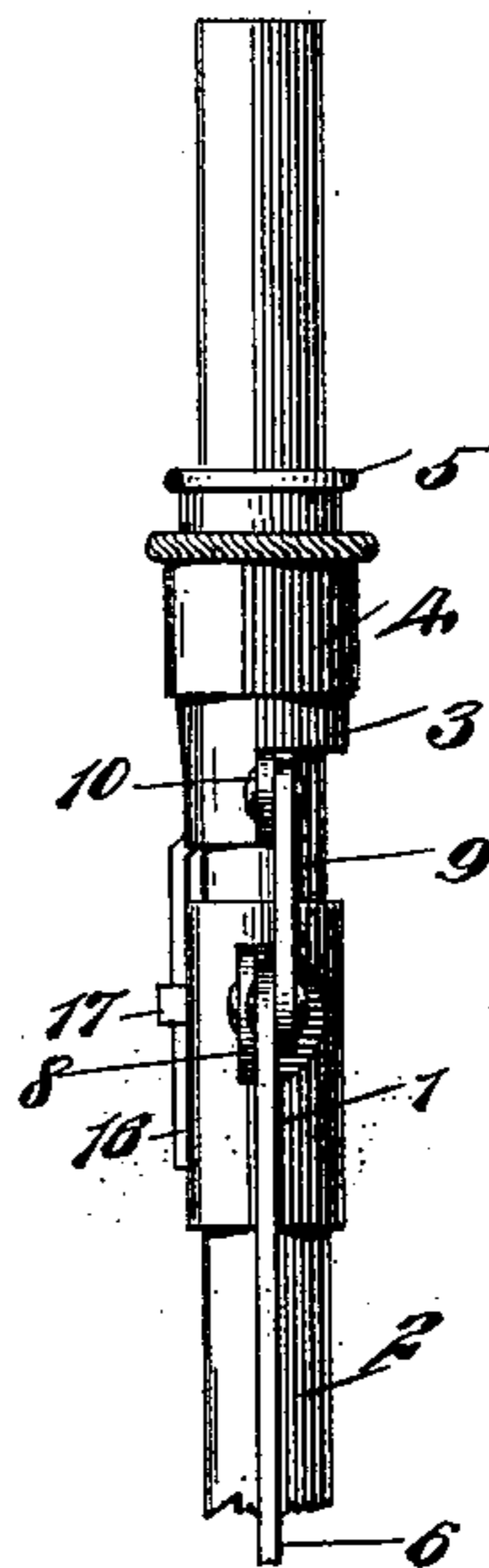


Fig. 5.

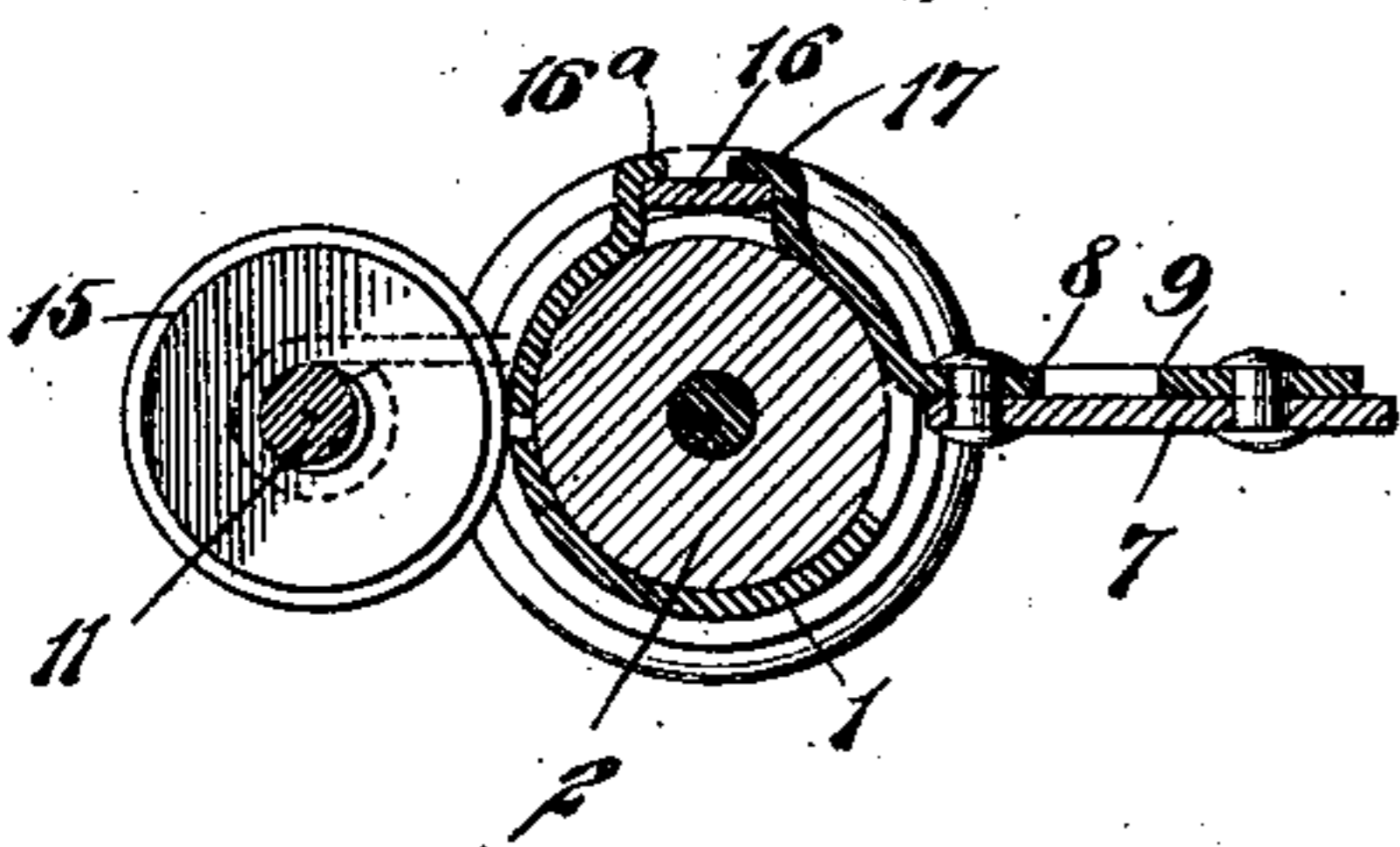


Fig. 6.

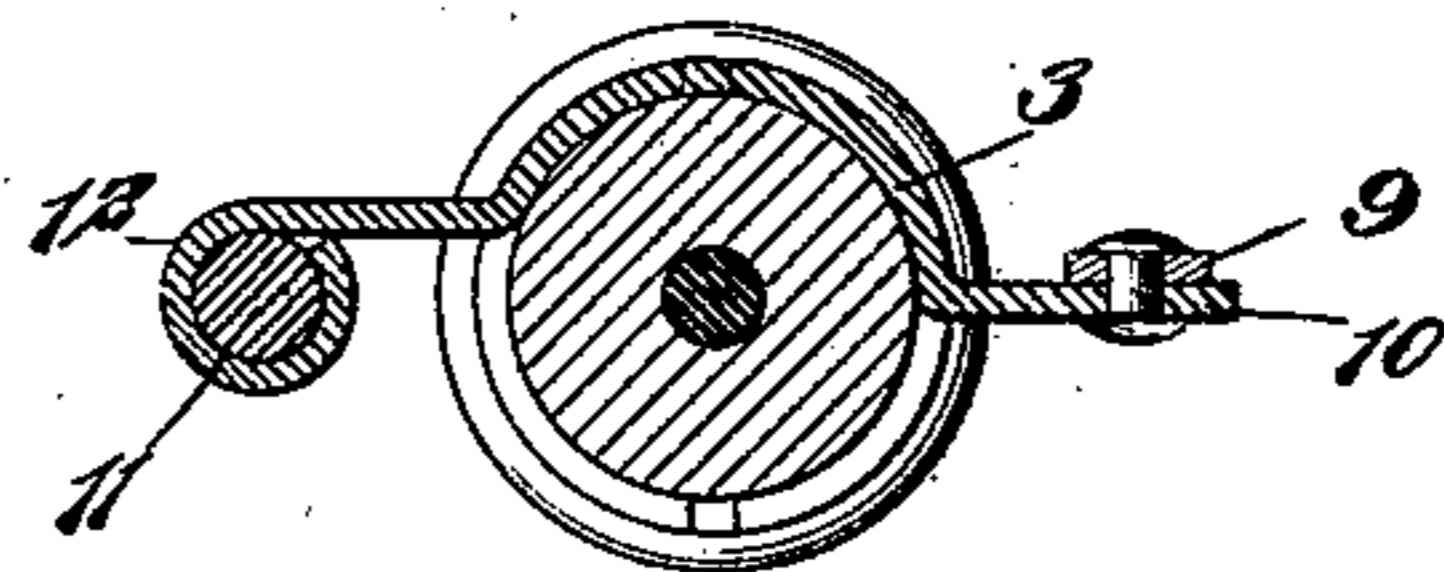
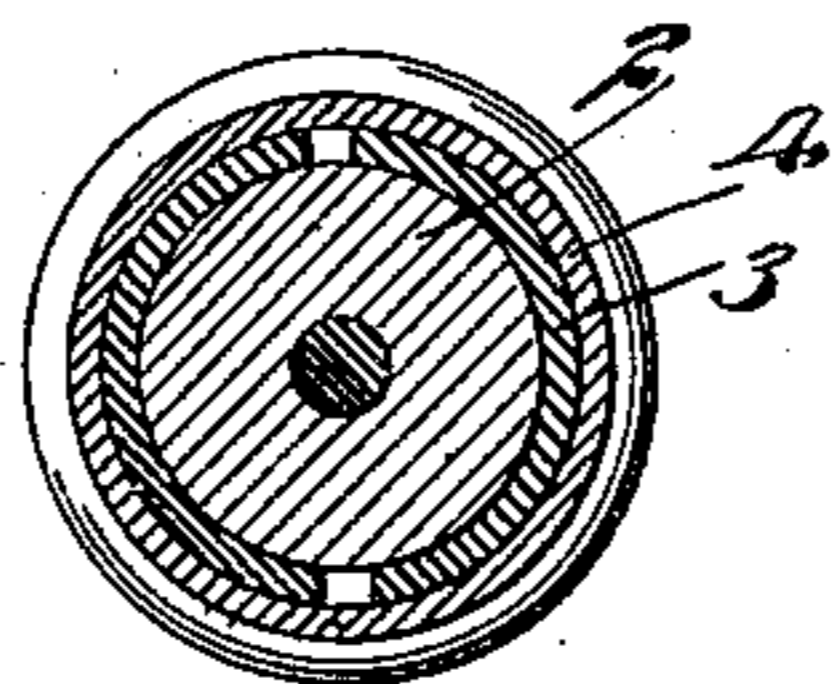


Fig. 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

LESLIE YOUNG AND JOHN L. RYAN, OF NEW YORK, N. Y., ASSIGNORS OF  
ONE-HALF TO PATRICK F. LYNCH, OF SAME PLACE.

## CALIPER-COMPASSES.

SPECIFICATION forming part of Letters Patent No. 646,783, dated April 3, 1900.

Application filed November 24, 1899. Serial No. 738,157. (No model.)

*To all whom it may concern:*

Be it known that we, LESLIE YOUNG, of the city of New York, borough of Brooklyn, in the county of Kings, and JOHN L. RYAN, of the city of New York, borough of Manhattan, in the county of New York, State of New York, citizens of the United States, have invented new and Improved Caliper-Compasses, of which the following is a full, clear, and exact description.

This invention relates to that class of compasses in which a marking-pencil forms one of the legs and having a means or caliper-measure for indicating a distance between a pencil-point and the metal or pivot leg; and the object is to provide an instrument of this character that shall be simple in its construction and having means by which it may be quickly and accurately adjusted.

We will describe the caliper-compasses embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the compasses embodying our invention. Fig. 2 is a similar view, but showing the parts in a different position. Fig. 3 is a front elevation. Fig. 4 is a section on the line 4 4 of Fig. 1. Fig. 5 is a section on the line 5 5 of Fig. 1, and Fig. 6 is a section on the line 6 6 of Fig. 1.

Referring to the drawings, 1 designates a collar which is adapted to move on a pencil 2, which forms one leg of the compasses. A sleeve 3 is adapted to be clamped tightly in engagement with the pencil. This sleeve is tapered and longitudinally split, and it is moved into its clamping position by means of a clamping-ring 4, movable longitudinally on the sleeve. To prevent the ring 4 from being wholly removed from the sleeve, we provide the upper end of the sleeve with a bead 5.

The metal or pivot leg 6 of the compasses has its upper end 7 drawn at substantially right angles to the body portion and pivotally connected to a lug 8 on the collar 1. This lug may be formed by turning out a portion of the metal from which the collar is made. A

link 9 connects the upper end of the leg 6 with a lug 10, extended from the sleeve 3, and it may be formed integral therewith. An adjusting-screw 11 is attached to a lug 12, extended from the sleeve 3 at the side opposite that of the lug 11, and this screw extends through openings in lugs 13 and 14, formed on the collar 1. Between the lugs 13 and 14 is an adjusting-nut 15.

A caliper-scale 16 extends downward from the sleeve 3 and is movable between guides 16<sup>a</sup> and 17 on the collar 1, the guide 17 being in the form of a pointer to coact with the scale.

In operation when the pencil is clamped in position by turning the nut 15 the collar 1 will be moved along the pencil, and this movement of the collar will cause the leg 6 to move outward or inward, depending, of course, on which direction the nut is turned. The distance between the points of the pencil and the leg 6 may be determined by the scale 16 and the point 17.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In an instrument of the class described, a clamping-sleeve for a pencil, a collar adapted to slide on the pencil, a leg pivotally connected to said collar, a link connection between said leg and the clamping-sleeve, and an adjusting connection extending directly from the sleeve to the collar, substantially as specified.

2. In an instrument of the class described, a sleeve adapted to clamp a pencil, a collar movable on the pencil, a caliper-scale extended from the sleeve, guides on the collar for receiving said caliper-scale, one of said guides being in the form of a pointer, and a leg pivotally connected to the collar and a link connection with the sleeve, substantially as specified.

3. In an instrument of the class described, a sleeve longitudinally split, a clamping-ring movable on said sleeve, a collar movable relatively to the sleeve, an adjusting-screw for causing the movements of the collar, a leg pivotally connected to the collar, a link connection between said leg and the sleeve, a caliper-scale attached to the sleeve, and guides

for said caliper-scale on the collar, one of said guides being in the form of a pointer, substantially as specified.

4. The combination of two axially-alined 5 collars or sleeves adapted to be mounted upon a lead-pencil or the like, one fixedly and the other movably, a compass-leg having its upper end pivoted to the lowermost collar or sleeve, a link pivoted to the uppermost collar 10 or sleeve and to the upper end of the compass-leg, and an adjusting connection between the said collars or sleeves, substantially as described.

5. The combination of two axially-alined 15 sleeves or collars adapted to be mounted on a lead-pencil or the like, one fixedly and the other movably, a compass-leg having an angular upper end pivoted to the lowermost collar or sleeve, a link pivoted to the uppermost 20 collar or sleeve and to the angular upper end of the compass-leg, and means for adjustably connecting the collars or sleeves together, said means being at one side of the said collars or sleeves, substantially as described.

6. The combination with two axially-alined 25 collars or sleeves, a link pivoted to one collar or sleeve, a compass-leg pivoted to the other collar or sleeve and to the upper end of which the other end of said link is pivoted, and a direct adjusting connection between the two 30 collars or sleeves, said connection, consisting of a screw at one side of the collars or sleeves and parallel with the axis thereof, said screw being rigidly secured to one of the collars or sleeves, while passing loosely through the 35 other, and a nut upon the screw and engaging such other sleeve, to move the same.

In testimony whereof we have signed our names to this specification in the presence of the subscribing witnesses.

LESLIE YOUNG.

JOHN L. RYAN.

Witnesses to the signature of Leslie Young:

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J. SEARLE.

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M. J. CARNEY,

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