

S. C. & J. F. LARY.
DRAWING INSTRUMENT.
APPLICATION FILED FEB. 11, 1908.

1,045,300.

Patented Nov. 26, 1912.

Fig. 1.

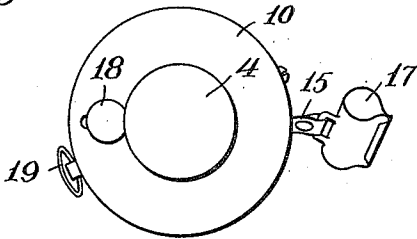


Fig. 2.

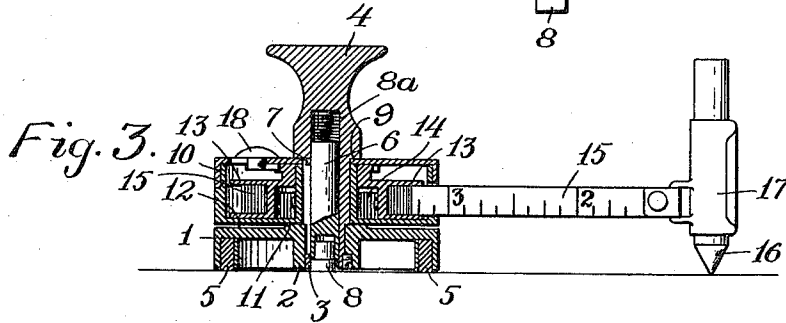
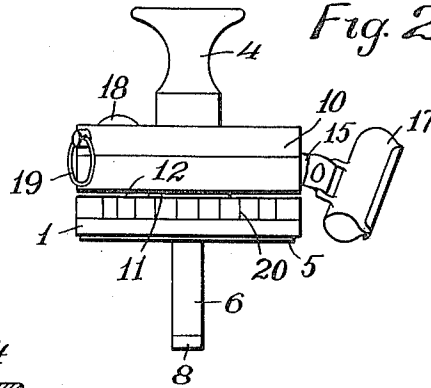
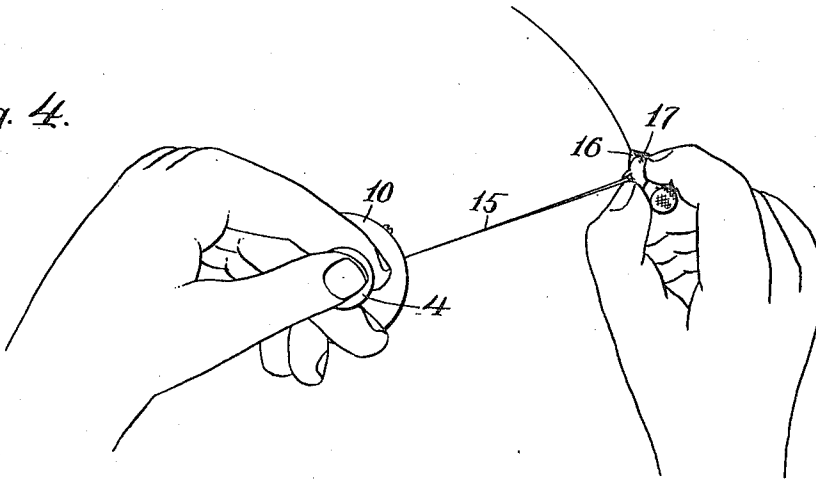


Fig. 4.



Witnesses.

R. D. Tolman.
Penelope Comberbach.

Inventors.

Stanley C. Lary.

John F. Lary.

By Rufus B. Bowler
Attorney

UNITED STATES PATENT OFFICE.

STANLEY C. LARY, OF COHASSET, AND JOHN F. LARY, OF WORCESTER,
MASSACHUSETTS.

DRAWING INSTRUMENT.

1,045,300.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed February 11, 1908. Serial No. 415,321.

To all whom it may concern:

Be it known that we, STANLEY C. LARY, of Cohasset, in the county of Norfolk and Commonwealth of Massachusetts, and JOHN F. LARY, of Worcester, in the county of Worcester, in said Commonwealth, both citizens of the United States, have invented a new and useful Improvement in Drawing Instruments, of which the following is a specification, accompanied by drawings forming a part of the same, in which—

Figure 1 is a top view of our improved drawing instrument. Fig. 2 is a side view of the same. Fig. 3 is a vertical central sectional view of our improved drawing instrument in operation, and Fig. 4 is a top view of the same.

Similar reference figures refer to similar parts in the different views.

Our invention relates to instruments for describing circles or arcs of any desired diameter and length, and includes means for measuring said diameter or length, and it consists in the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

Referring to the accompanying drawings 1 denotes the annular base of the instrument, having a central hub 2, inclosing hollow sleeve 3, which terminates at its top in a conveniently shaped handle 4. We provide the annular base with a ring 5, preferably of rubber or like material, to furnish a bearing surface for the base, but any construction of the base to prevent lateral movement when the instrument is in operation and pressure is exerted upon the handle 4, would come within the spirit of our invention.

Inserted in the hollow sleeve 3 is a sliding rod 6, held from rotation by a spline connection 7 with the hollow sleeve 3, and provided with a contacting foot 8, held from lateral movement and arranged to serve as the center of the drawing instrument. The foot 45 also may be constructed of rubber, but any construction which holds the foot 8 from lateral movement we regard as within the scope of our invention. We have also shown a spiral spring 8^a inclosed in the hollow sleeve 3, and arranged to exert a downward pressure upon the rod 6, thereby holding the foot 8 firmly against the surface operated on. When the base 1 is not in contact with the surface upon which the circle 55 is to be described, the rod 6 is ejected from

the hollow sleeve 3 by the spring 8 until its movement is stopped by the spline 7. This position of the rod 6 is shown in Fig. 2, and enables the instrument to be accurately centered before the base 1 is brought in contact 60 with the drawing surface.

Journaled in the outer surface of the sleeve 3 and held from longitudinal movement thereon by the shoulder 9 is an annular case 10, which is arranged to rotate freely 65 on the sleeve 3, and is held from contact with the base 1 by a vertical extension 11 on the hub 2 above the plane of the upper surface 12 of the base 1.

Inclosed within the freely rotating case 10 70 is a spool 13 arranged to be rotated by the spring 14, thereby winding upon the spool 13 a flexible measuring line 15. In this instance we have shown the line 15 formed from tape, with graduations upon it to indicate the distance from the center of the 75 rod 6 to the center of the marker 16, or other instrument inserted in the clip 17. We are thereby enabled to determine the radius of any curved line formed by the marker 16 by 80 inspection of the indicating marks upon the tape 15. The tape is held extended against the spring 14 by a spring actuated latch 18, as is common in tape measures as now constructed, and by the movement of this latch 85 the spring 14 is allowed to return the tape 15 within the case 10.

The operation of our improved drawing instrument, as shown in Fig. 4, is as follows:— The radius of the desired curve having been 90 determined by extension of the tape 15, the foot 8 is placed upon the previously determined center and the spring 8^a is compressed by pressure upon the handle 4, thereby bringing the ring 5 in the base 1 also into contact 95 with the surface upon which the circle is to be made. The handle 4 is firmly held to prevent lateral movement of the instrument, and the circle or arc is described by movement of the marker or other instrument held 100 in the clip 17, with the tape 15 held taut. We have also provided a ring 19 attached to the rotatable case 10, by means of which a circle of smaller radius may be described than is possible by the use of the tape 15, and 105 the diameter of this circle may be determined in the construction of the instrument. We have also provided graduations 20 upon the base 1, shown in Fig. 2, by which an arc of any desired angular relation to the entire 110

circle may be described, and any desired angle at the center may be determined. These graduations 20 are operative in describing an arc either by use of the tape 15 or of the ring 19.

We have shown our drawing instrument arranged to describe a curve upon a black-board or similar surface, and the clip 17 is arranged to hold a piece of crayon or similar instrument. But it is obvious that by slight rearrangement of the clip 17 the instrument may be fitted for the use of pencils or other marking means, glass cutters or other cutting devices, and that our instrument may be employed not only for drawing purposes, but for other uses in which accurately curved disks are to be cut from various materials.

We claim:

- 20 1. A drawing instrument, having a circular non-rotatable base provided with a graduated periphery, a circular rotatable member concentric with said base, means for attaching a marking instrument directly to the periphery of said member, flexible means for connecting a second marking instrument with said member, and yielding means for withdrawing said flexible means within said member.
- 25 2. In an instrument of the class described, the combination with a fixed base, means for preventing lateral movement of said base, a spring actuated rod concentric with said base, said base and said rod arranged to be held in contact with a plane surface, of a rotatable case concentric with said base, and means for attaching a marking instrument to said case.
- 30 3. A drawing instrument having a non-

rotatable base, a rotatable member mounted on said base, a centering rod normally projecting from and capable of being pushed into said base, and a spring having its tension applied to hold said rod in its normal position.

4. In a drawing instrument, the combination with a non-rotatable base having a central hub, a vertical sleeve inclosed by said hub, a rotatable member journaled on said sleeve and supported on said hub, means for preventing longitudinal movement of said member on said sleeve, and a marking instrument attached to said member.

5. A drawing instrument, having a non-rotatable base, a central nonrotatable vertical extension from said base, a rotatable member consisting of a circular shell or case journaled between said base and said vertical extension, a clip for holding a marking tool, a flexible connection between said clip and said case consisting of a tape lying in the plane of the axis of said member.

6. A drawing instrument, having a non-rotatable base, a rotatable case concentric with said base, a spring actuated extensible measuring tape held within said case, arranged vertically and in contact with the periphery of said case, and a marking instrument attached to the end of said tape, with the marking point of said marking instrument in the same vertical plane as said tape.

STANLEY C. LARY.
JOHN F. LARY.

Witnesses:

PENELOPE COMBERBACH,
RUFUS B. FOWLER.