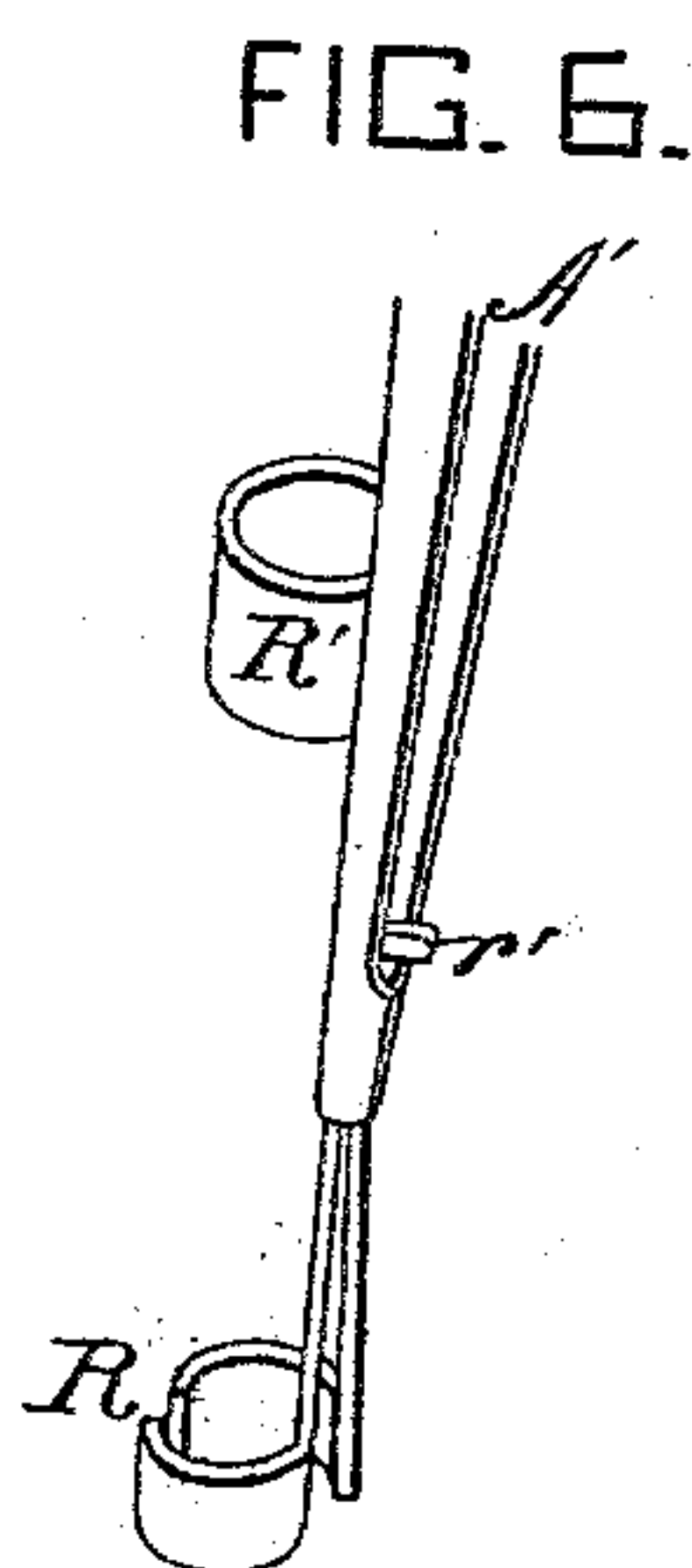
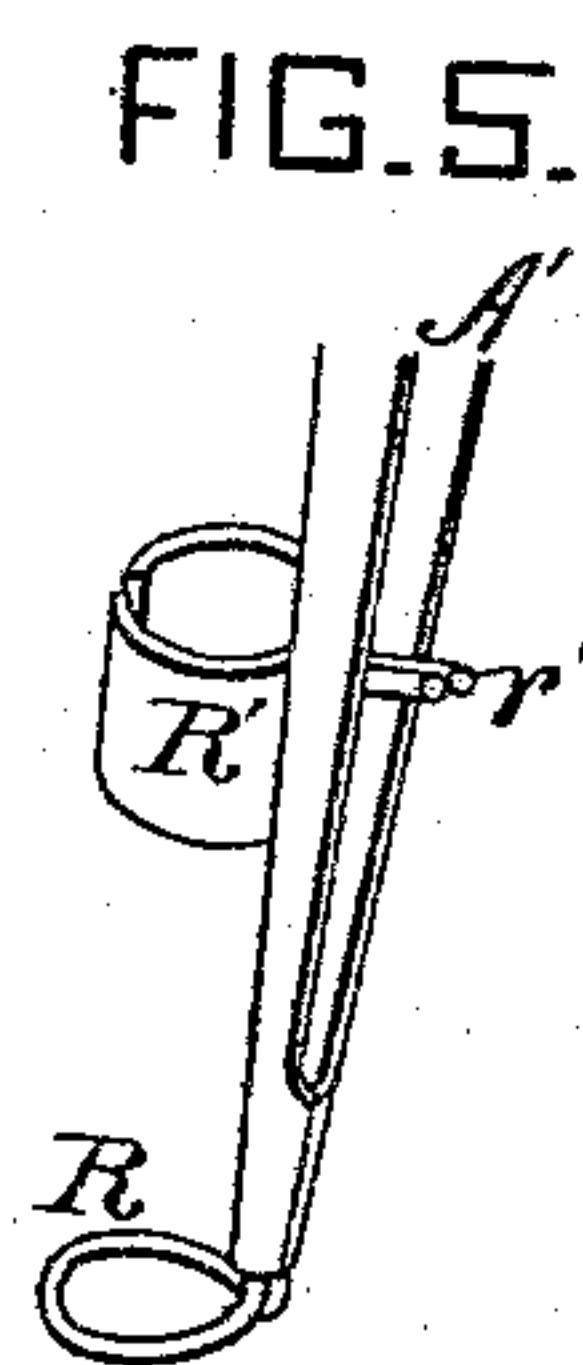
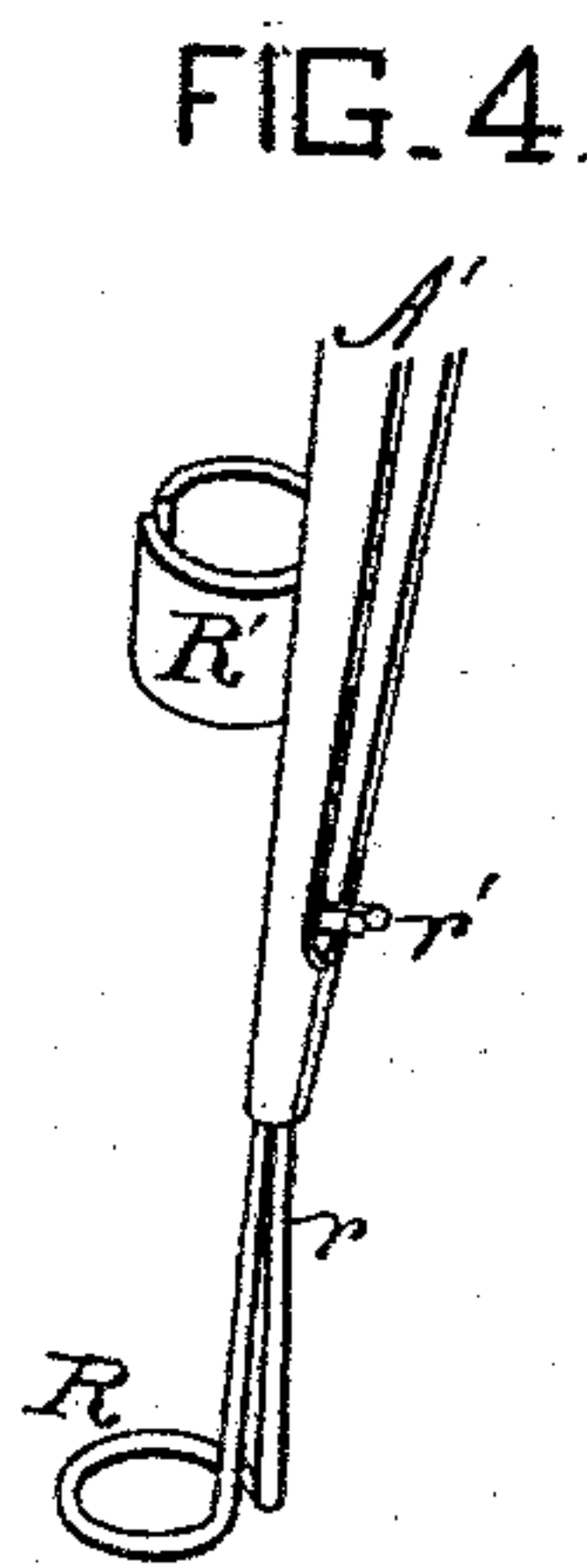
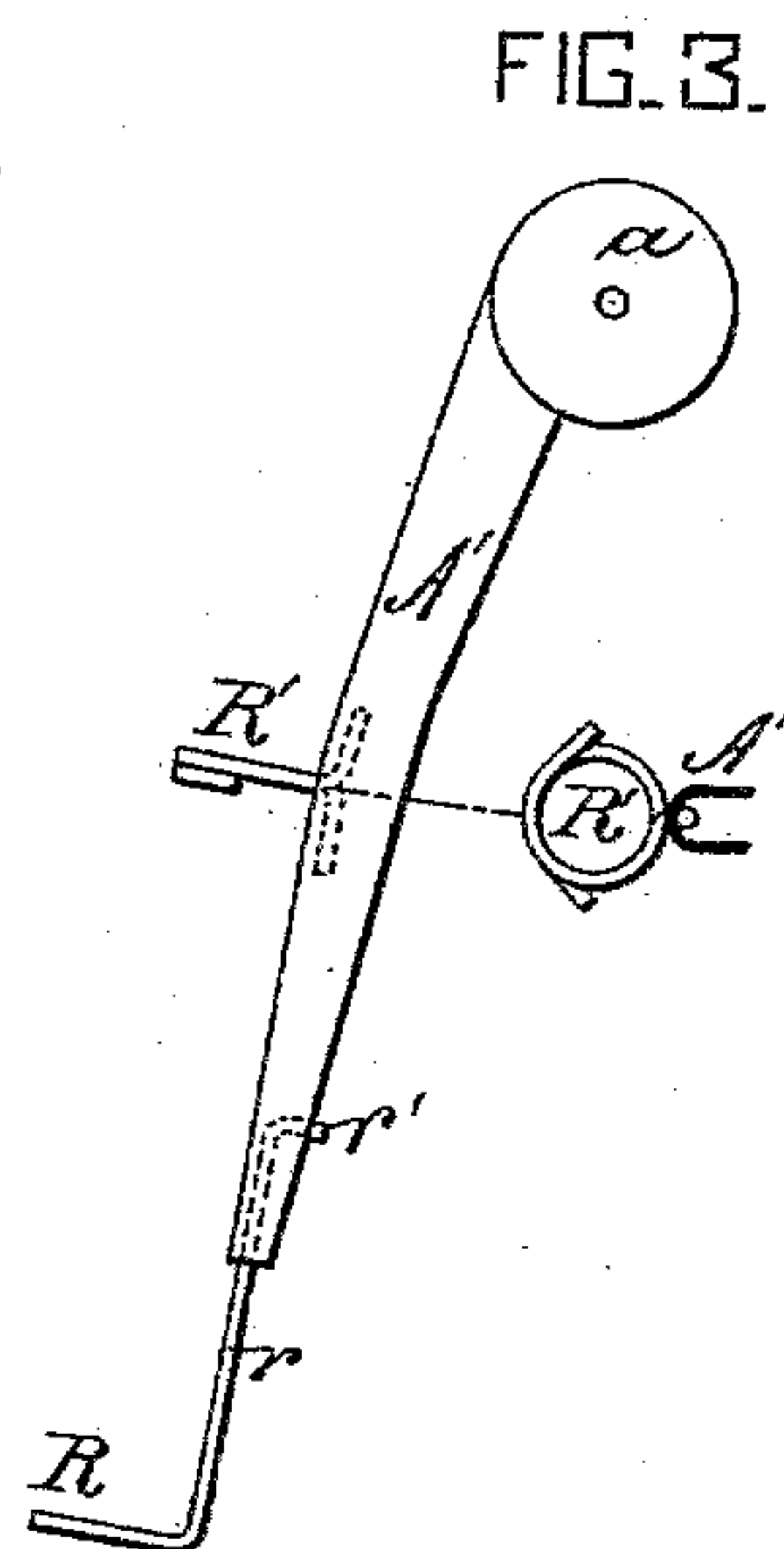
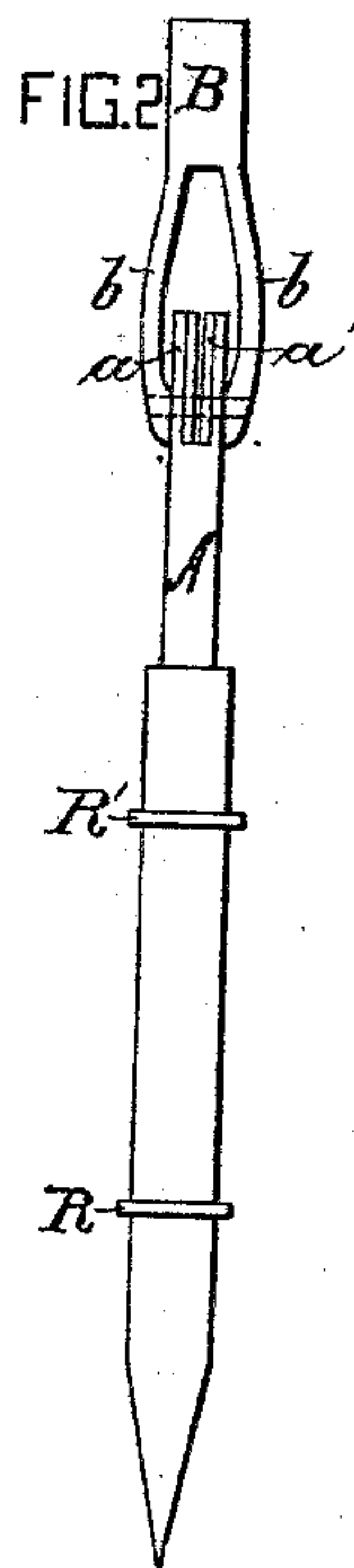
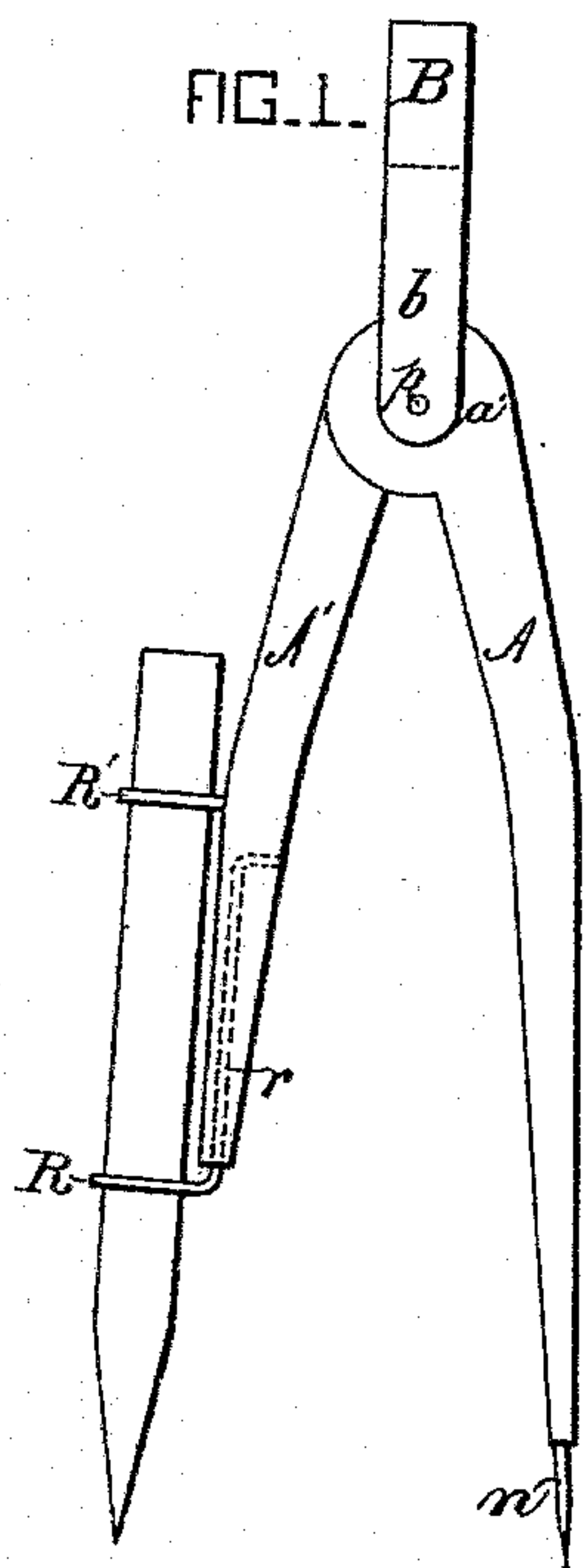


(No Model.)

B. H. TOQUET.  
DRAFTING COMPASSES.

No. 511,177.

Patented Dec. 19, 1893.



WITNESSES:

*George Baumann*  
*Albert Popkins.*

*Benjamin H. Toquet* INVENTOR  
BY  
*Howson and Howson*  
his ATTORNEYS.



# UNITED STATES PATENT OFFICE.

BENJAMIN H. TOQUET, OF WESTPORT, CONNECTICUT.

## DRAFTING-COMPASSES.

SPECIFICATION forming part of Letters Patent No. 511,177, dated December 19, 1893.

Application filed March 28, 1893. Serial No. 467,946. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN H. TOQUET, a citizen of the United States, and a resident of Westport, Fairfield county, State of Connecticut, have invented Improved Drafting-Compasses, of which the following is a specification.

The main object of my invention is to provide an inexpensive construction of compasses which will permit of the ready insertion and removal and yet the firm retention of an ordinary pencil, and which will not be liable to get out of order or be damaged by such rough usage as compasses are apt to receive in the hands of school children and others.

In the accompanying drawings Figure 1 is a side elevation of one form of my improved pencil compasses. Fig. 2 is an edge view of the same. Fig. 3 is a view of a modification. Figs. 4 and 5 are perspective views of another modification showing the movable part in the two extreme positions to which it can be moved. Fig. 6 is a perspective view similar to Fig. 4, but of another modification.

The two main portions of the legs of the compasses A and A' may be conveniently made of sheet metal stamped up into a V- or U-shaped cross section with disk-like ears *a a'* on the two legs adapted to be fitted to each other with a pin *p* to form the hinge of the two legs of the compasses.

The handle or head B of the compasses is bifurcated with spring legs *b* embracing and pressing upon the hinging disks *a a'* of the two legs of the compasses with a pressure sufficient to produce such a friction between the disks or ears as to readily keep the legs of the compasses in any relative positions to which they may be turned upon their hinge or axis.

That leg A of the compasses which is to form the center point when in use is provided with a suitable needle or pin *n* which may be soldered or otherwise secured to the foot of the leg.

The leg A of the compasses which is to carry the pencil, crayon or other marking device may be made somewhat shorter than the leg A' and is provided with two rings R R', one at the foot of the leg and the other preferably about midway between the foot and the hinging point. These rings may be made of wire or short tubes and the upper one may

be either solid or split but the lower one R is in all cases made a split ring adapted to be opened or closed. In Figs. 1 and 2 the upper ring is shown as a closed ring made of a piece of wire; the lower ring R is also made of a piece of wire, but the ring is open at the inner side and has upward extensions *r r'*, as shown more fully at Fig. 4, which pass up into and may slide within the hollow portion of the leg A of the compasses in such a way that the ring R may be either pushed up to the position shown in Figs. 1 and 2, or drawn down as shown in Fig. 4. When drawn down as shown in Fig. 4, the ring R will be allowed to spring open as shown in that figure, for the convenient insertion of an ordinary pencil of suitable length, and then by pushing the ring R with the pencil up again, the legs *r* will be brought together and confined by the contracted foot of the hollow leg A of the compasses to cause the ring R to tightly bind and firmly hold the pencil. Meanwhile the upper end of the pencil will have been passed into the upper ring R'.

To prevent the sliding expansible ring R from being drawn entirely out of the compass leg and lost, I prefer to provide some stop means, such as by bending at right angles, as at *r'*, the upper ends of the legs *r*, to catch on a projection on the tubular leg A and such projection may be conveniently formed by closing the open side of the hollow leg A at its foot, as shown in Figs. 4 and 5.

In Fig. 6 the lower ring is shown as constructed of segments of a tube or ring but operating substantially as already described with reference to Figs. 4 and 5. In Figs. 4, 5 and 6 the upper ring is shown as formed of a short tube soldered or otherwise secured to the leg of the compasses at a suitable point. This tube may be split as shown in Figs. 4 and 5, or a closed ring as shown in Fig. 6. In Fig. 3 the upper ring is shown as formed of a piece or pieces of wire with their outer ends overlapping so as to form a spring clip on the upper end of the pencil, somewhat like a common form of split key ring.

I claim as my invention—

1. A pair of compasses having legs with disk-like ears to hinge them together, with a handle or head having spring legs embracing said ears to frictionally hold the legs in any



position to which they are adjusted, substantially as described.

2. A pair of pencil compasses having on one leg two rings of which one is a sliding expandable ring and means whereby the latter is expanded by being slid in one direction and closed by being slid in the other direction, substantially as described.

3. A pair of pencil compasses having one of its legs hollow and provided with two rings of which one is split and has extensions passing up into and sliding within the hollow leg to compress the split ring for the gripping of the pencil, substantially as described.

4. A pair of pencil compasses having a hollow leg carrying two rings of which the lower one is formed of a piece of wire open at the inner side and there provided with extensions which pass up into and can slide within the hollow leg to open or close the ring, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN H. TOQUET.

Witnesses:

HENRY D. WILLIAMS,  
HUBERT HOWSON.