

J. B. SCHROCK.

LENS HOLDER.

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936,368.

Patented Oct. 12, 1909.

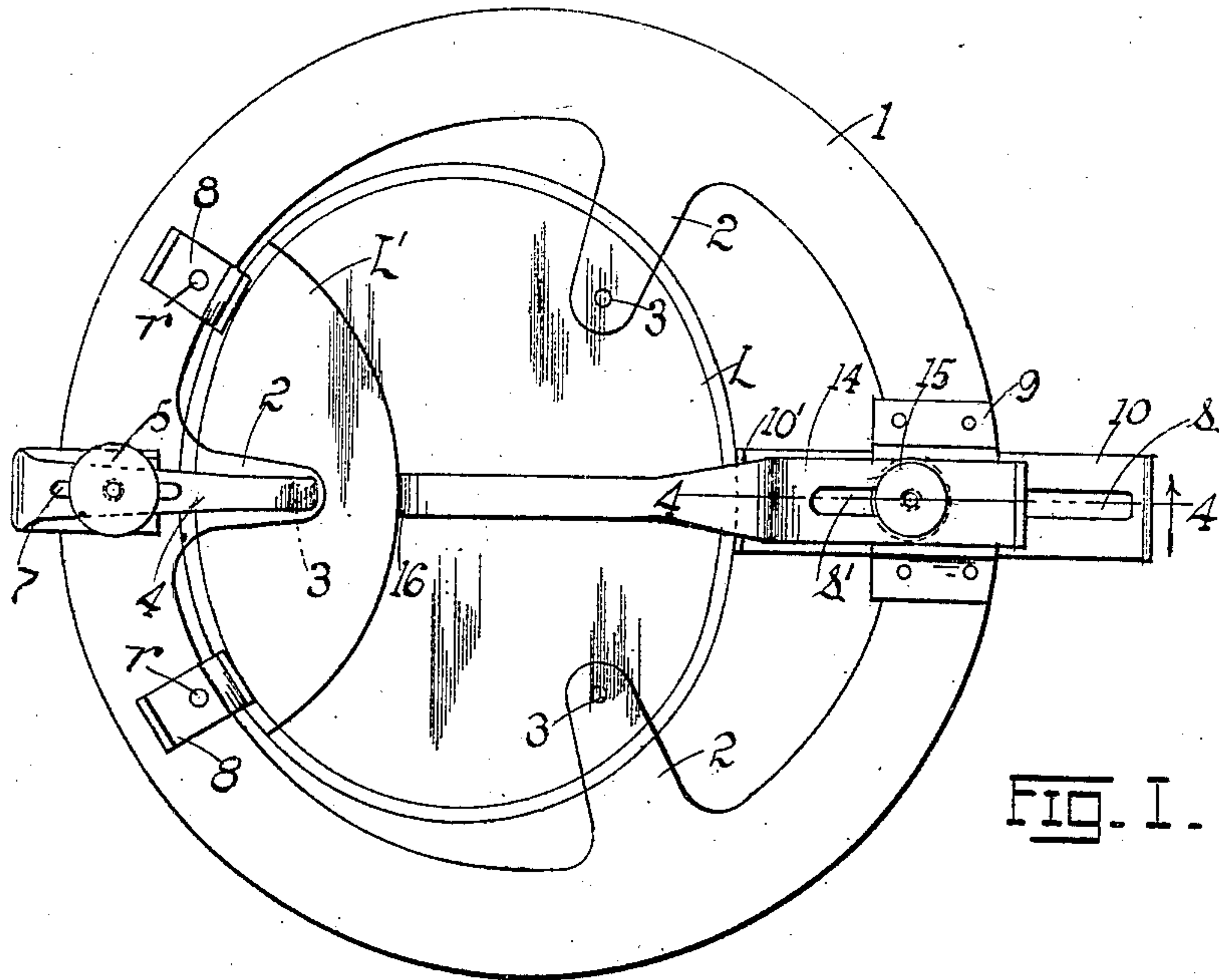


FIG. 1.

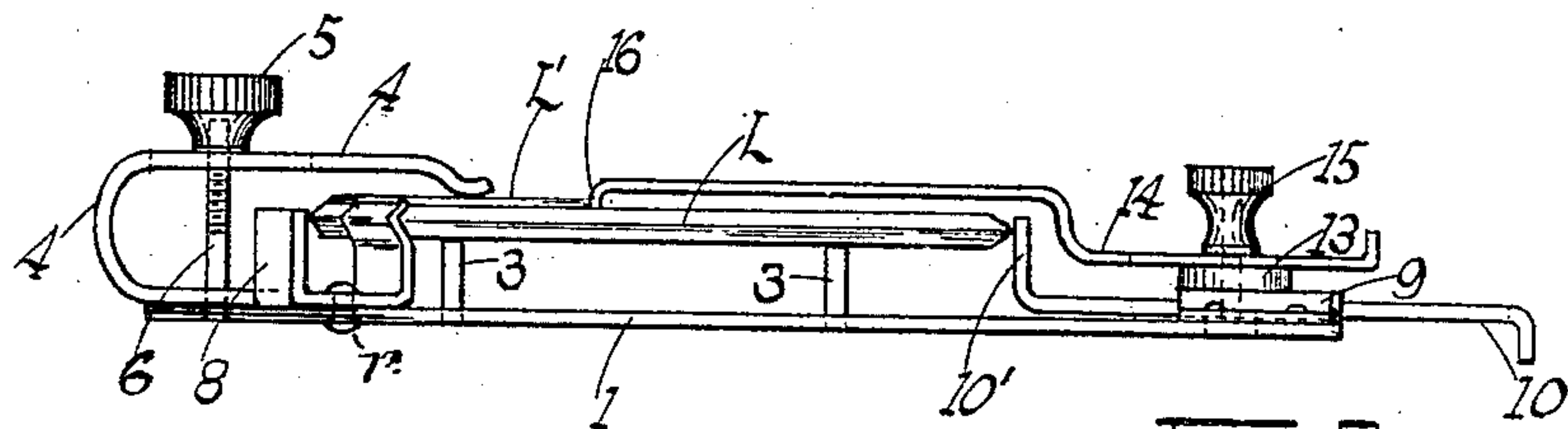


FIG. 2.

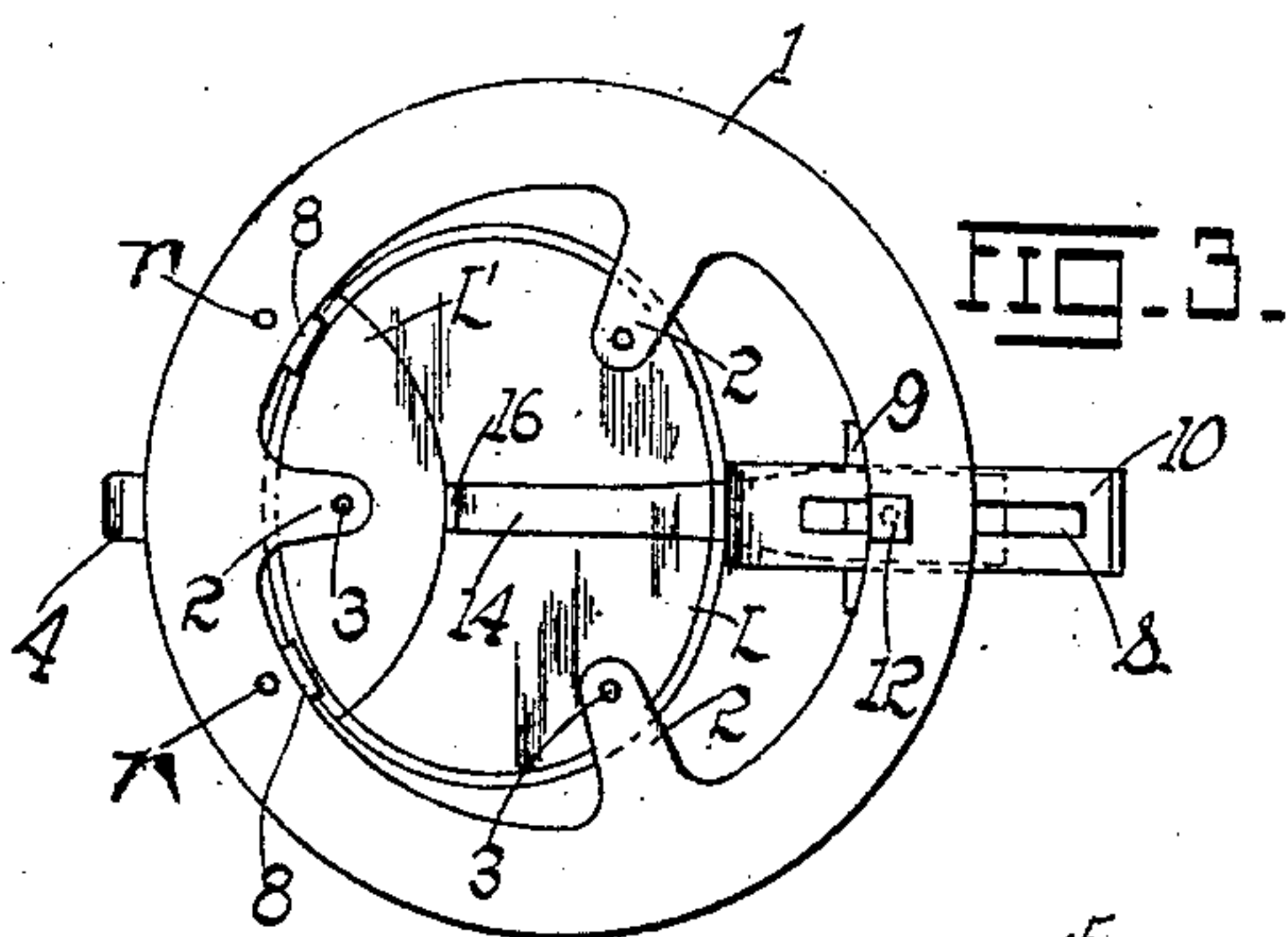


FIG. 3.

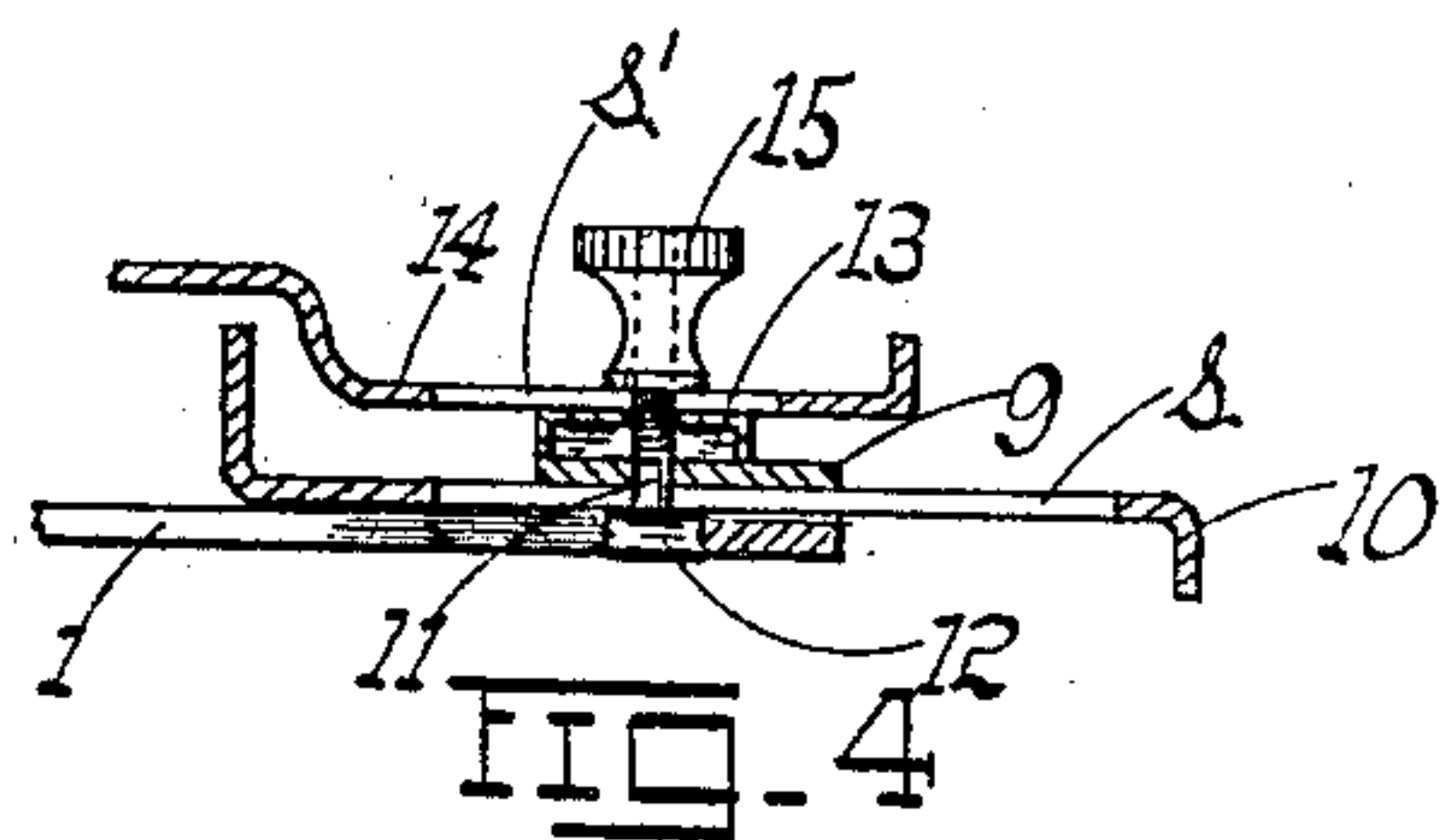


FIG. 4.

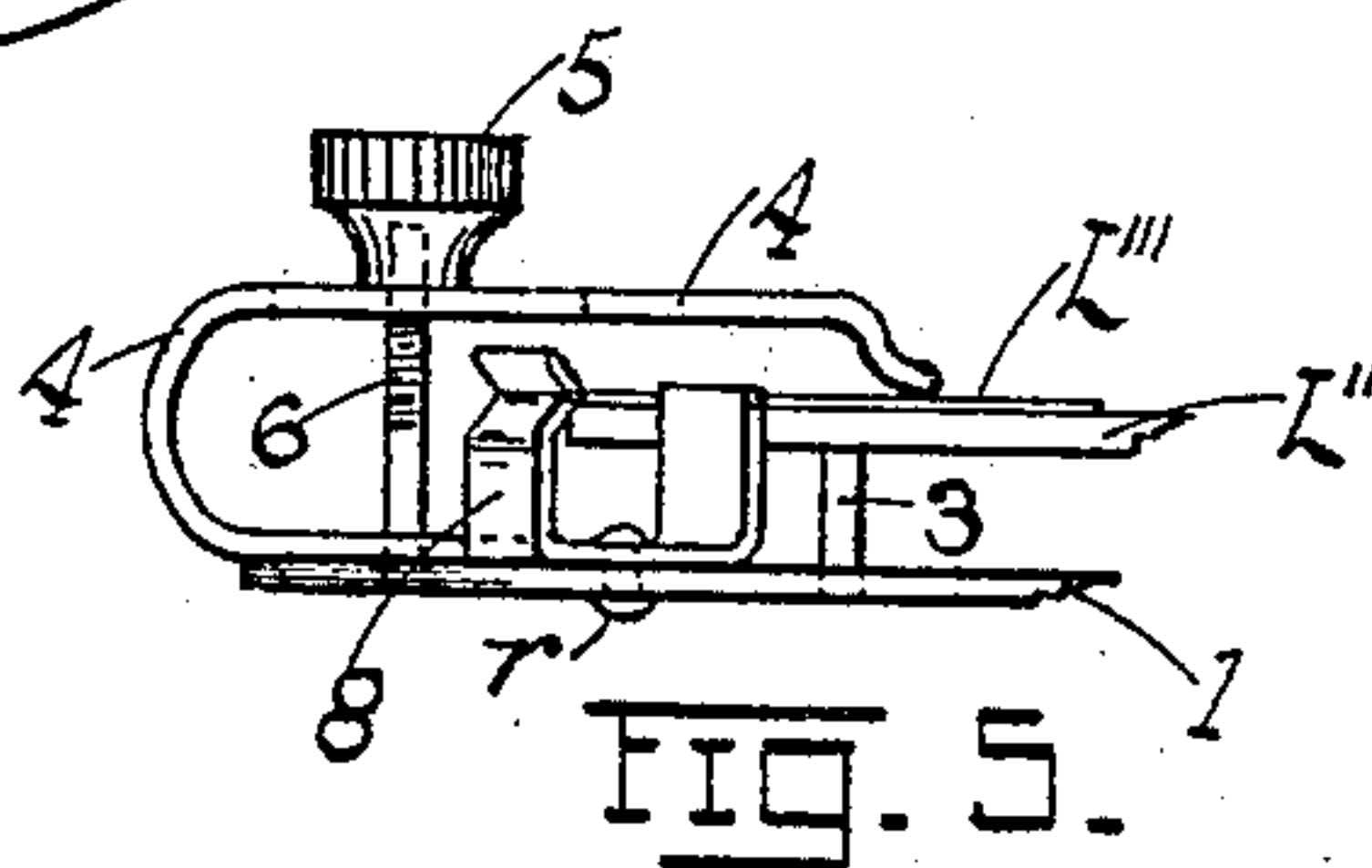


FIG. 5.

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LENS-HOLDER.

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To all whom it may concern:

Be it known that I, JOSEPH B. SCHROCK, citizen of the United States, residing at Bedford, in the county of Lawrence, State of Indiana, have invented certain new and useful Improvements in Lens-Holders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in lens-segment-setting and cementing tools; and it consists in the novel construction and arrangement of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a top plan of the invention; Fig. 2 is a side elevation thereof; Fig. 3 is a bottom plan on a somewhat smaller scale; Fig. 4 is a vertical sectional detail on the line 4—4 of Fig. 1; and Fig. 5 is an elevational detail showing the reversible clip turned to engage a rimless lens.

The object of my invention is to provide a tool by which the lens-segment of bifocals may be properly and accurately maintained in position on the main lens while being cemented thereto, particularly in cases where the segment has become loose from the main lens and must be re-cemented thereto.

As well understood in the art, bifocals are composed of an ordinary lens, and a lens segment through which near vision is adjusted. This segment is secured at the lower field of vision of the main or supporting lens, at the natural reading axis. This segment is cemented to the main lens, the cement being interposed between the heated surfaces of the lenses, the cement after cooling forming a substantially uniform transparent union between the two lenses. In time the cement deteriorates, the surfaces separating in spots, thus obscuring the vision. This necessitates removal of the segment, a subsequent cleaning of the surfaces, and a remounting of the segment. It is for this remounting that my appliance or holder is eminently adapted, and the special object sought is to provide a tool or holder which will maintain the two lenses in the proper position during the cementing operation.

The advantages of the invention will be best apparent from a detailed description of the same, which is as follows:—

Referring to the drawings, 1 represents a (preferably) circular frame or ring pro-

vided with a series of inwardly directed radially disposed lobes 2, each lobe carrying an upwardly projecting peg 3 for the support of the main lens L. In practice three lobes 2 are sufficient. Secured to the ring 1 opposite one of the lobes 2 is a flexed spring 4 the free end of which is adapted to yieldingly bear against the face of the segment-lens L' and hold the latter to the main lens L. The degree with which the lens L' shall be forced against the lens L is regulated by a nut 5 operating over a screw-stem 6 secured to the ring 1 and which passes loosely through a slot 7 formed in the yielding arm of the spring 4. By driving the nut 5 along the stem toward the ring 1, the arm of the spring may be forced with any degree of pressure against the lens L'.

The meeting edges of the lenses L, L' are simultaneously engaged by the adjacent upturned ends of the clips 8 mounted rotatably about the rivets *r* on the ring 1 on each side of the spring 4, the clips each having terminal upturned arms, one of which is slightly bent to engage the edges of the lenses which may be beveled, the opposite flat arm being adapted to engage a lens which has a square edge, or what is known as a rimless lens as shown in Fig. 5 where the clip has been turned to cause the substantially flat arm thereof to engage a square-edge lens L'' (the segment-lens being indicated by L''').

Riveted to the ring 1 at a point diametrically opposite the lobe over which the flexed spring 4 operates, and between the remaining two lobes, is a bridge-piece or strap 9 between which and the ring is free to slide an arm 10 having an outer downwardly bent terminal as shown, and an inner upwardly bent or deflected portion 10' adapted to engage the edge of the main lens L at a point substantially opposite the spring 4 and its adjacent lobe 2. The arm 10 is provided with a longitudinal slot *s* through which freely passes the screw-threaded stem 11, the latter terminating at the bottom in a square head 12 which fits in a corresponding socket or opening in the ring 1. Slipped over the stem 11 and resting on the bridge-piece 9 is a washer 13 on which in turn rests the lens-segment engaging arm 14, said arm being provided at its outer end in an elongated slot *s'* through which the stem 11 freely passes, the stem being finally surmounted by a nut or milled head 15 as shown. The arm 14 is suitably bent so as to

lap over the main lens L, the inner end terminating in a downwardly deflected lip 16 to abut against the edge of the segment lens L' and thus force the latter well against the opposing clips.

The operation of the device is obvious from the description, but may be briefly enlarged upon at this point. The cement is placed between the surfaces of the main and segment lens, heat being applied in any suitable manner to the main lens sufficient to melt or boil the cement, the latter hardening when left to cool and forming a secure transparent union between the surfaces. When the segment is placed over the main lens the outer edges of the lenses are brought into coincidence and up against the clips 8 (the main lens being supported on the pegs 3) the segment lens L' being thereby brought under the free end of the flexed spring or arm 4 which is forced against it by the nut 5. Thereupon, by loosening the nut 15 (done by partially unscrewing the same) the grip on both the arms 10 and 14 is loosened permitting the former arm to be shoved inward and its deflected portion 10' be brought into forcible engagement with the edge of the lens L at a point opposite the clips 8, and the arm 14 is shoved inward until its inner lip 16 engages the adjacent edge of the segment lens L' whereupon both lenses are forced against the clips 8. This done, the nut 15 is tightened, whereby it drives the washer 13 forcibly against the arm 14, the stem 11 being thereby raised to draw the square head 12 thereof up against the arm 10, so that both arms 10 and 14 are simultaneously loosened or tightened by an unscrewing or screwing of the clamping nut 15. This is clearly obvious from Fig. 4. The slots s, s' permit adjustment of their respective arms according to the diameters or dimensions of the lenses to be engaged.

With bevel-edged lenses the clips 8 are turned so as to engage the edges of the lenses with their bent arms for rimless lenses the clips are turned so as to present their substantially flat arms to the lenses (Fig. 5).

It will thus be seen that the lenses are supported from all conceivable directions during the setting and cooling of the cement and a displacement thereof is practically impossible. When the operation is complete, the nut 15 is loosened, the arms 10 and 14 withdrawn, the nut 5 is loosened, and the bifocal is ready to be removed from the tool.

Having described my invention, what I claim is:—

1. In a lens-holder, a suitable supporting frame for the main lens, means secured to the frame and bearing against the segment-lens during the support of the latter by the main lens, and means on the frame for preventing displacement of the main lens, substantially as set forth.

2. In a lens-holder, a suitable supporting frame for the main lens, clips on the frame for simultaneously engaging the meeting edges of the main lens and segment-lens supported thereby, and independent means for engaging the main and segment-lenses respectively along the edges opposite the edges engaged by the clips, substantially as set forth.

3. In a lens-holder, a suitable supporting frame for the main lens, clips on the frame for simultaneously engaging the meeting edges of the main lens and segment-lens supported thereby, and independent adjustable means for engaging the edges of the respective lenses opposite the edges engaged by the clips, substantially as set forth.

4. In a lens-holder, a suitable supporting frame for the main lens, reversible pivoted clips on the frame for simultaneously engaging the meeting edges of the main lens and segment-lens supported thereby, and independent means for engaging the edges of the respective lenses at points opposite the clips, substantially as set forth.

5. In a lens-holder, a suitable supporting the main lens, clips on the frame for simultaneously engaging the meeting edges of the main lens and segment-lens supported thereby, a flexed spring arm for bearing against the outer surface of the segment-lens, means for adjusting the pressure of the arm against the lens, and independent means for engaging the edges of the respective lenses at points opposite the clips, substantially as set forth.

6. In a lens-holder, a suitable ring, inwardly projecting lobes provided with means for the support of the main lens above the surface of the ring, clips on the ring for simultaneously engaging the meeting edges of the main lens and segment-lens supported thereby, a flexed spring arm bearing against the segment-lens, independent arms mounted slidably on the ring for engaging the edges of the lenses at points opposite the clips, and means for clamping the arms when in their adjusted positions.

7. In a lens-holder, a suitable supporting frame for the main lens, means secured to the frame and bearing upon the segment-lens during its support by the main lens, and means on the frame for preventing displacement of the lenses, substantially as set forth.

8. In a lens-holder, a suitable supporting frame for the main lens, means secured to the frame and bearing upon the segment-lens during its support by the main lens, devices for engaging the meeting edges of the superposed lenses, and means carried on the frame for engaging the opposite edges of the respective lenses whereby the lenses are held against displacement, substantially as set forth.

9. A lens-holder, comprising a suitable circular ring provided with inwardly directed lobes, projections on the lobes for supporting the main lens, a flexed spring arm
5 opposite one of the lobes, and provided with a slot, a screw-stem passing through the slot, an adjusting nut on the stem for regulating the tension of the spring against the segment-lens resting on the main lens, a bridge-
10 piece on the ring opposite the flexed spring, a slotted arm mounted between the ring and bridge-piece, a washer on the bridge-piece, a slotted arm on the washer, a screw stem on the ring passing through the bridge-piece,
15 washer and slots of the arms aforesaid, a nut on the screw-stem engaging the upper arm, a lower terminal polygonal head on the screw-stem engaging a corresponding socket or opening in the ring, the inner ends

of the respective arms being adapted to be 20 forced into engagement with the adjacent edges of the main lens and segment lens, the parts operating substantially as and for the purpose set forth.

10. In a lens-holder, a supporting frame 25 for the main lens, reversible clips for engaging the meeting edges of the main lens, and segment-lens supported thereby, and devices opposite the clips for engaging the opposite edges of the respective lenses. 30

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

JOSEPH B. SCHROCK.

Witnesses:

F. W. WALTERS,
SAMUEL LITTLE.