

J. GREEN.
LORGNETTE OR OPERA GLASSES.

No. 458,734.

Patented Sept. 1, 1891.

Fig. 3.

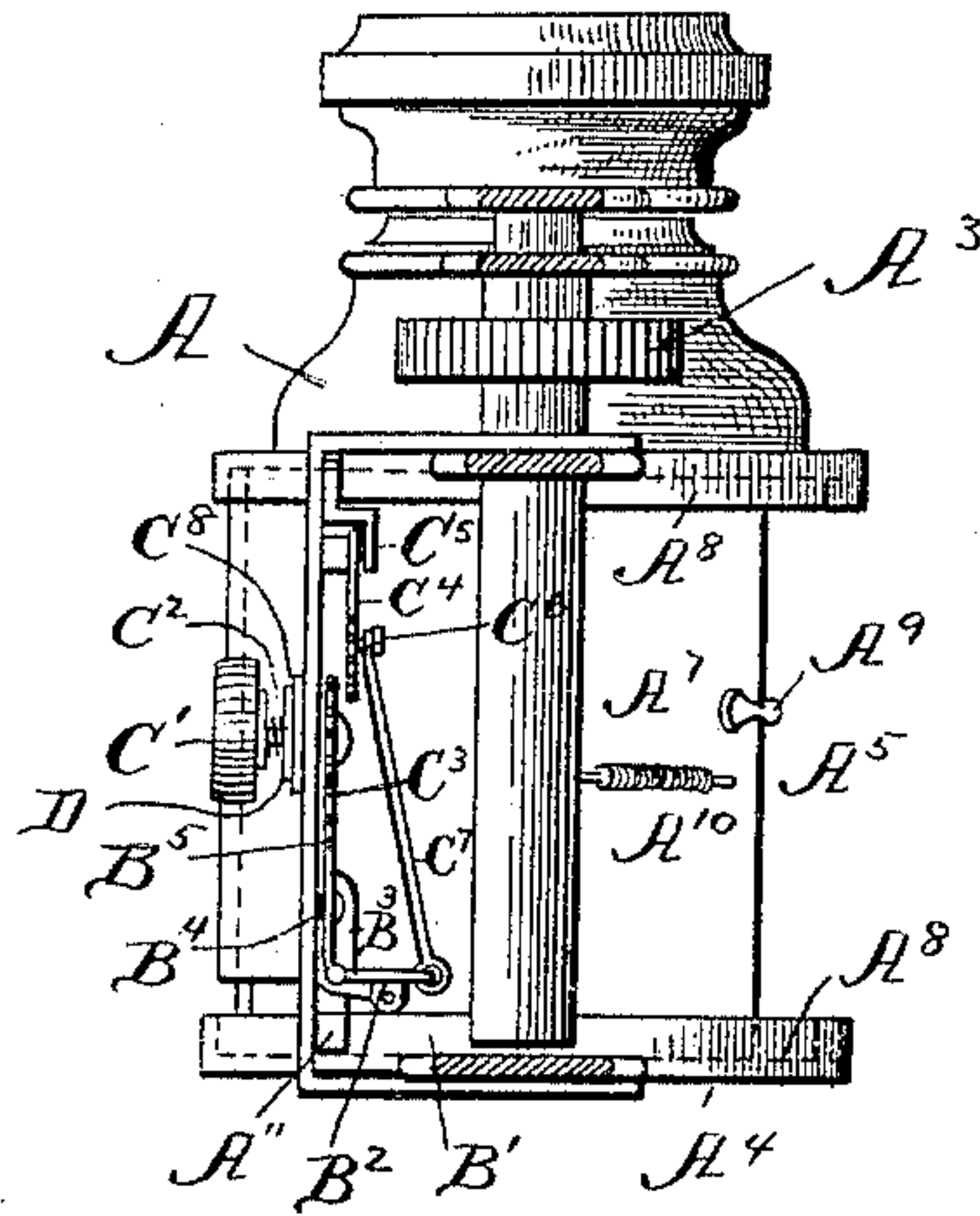


Fig. 4.

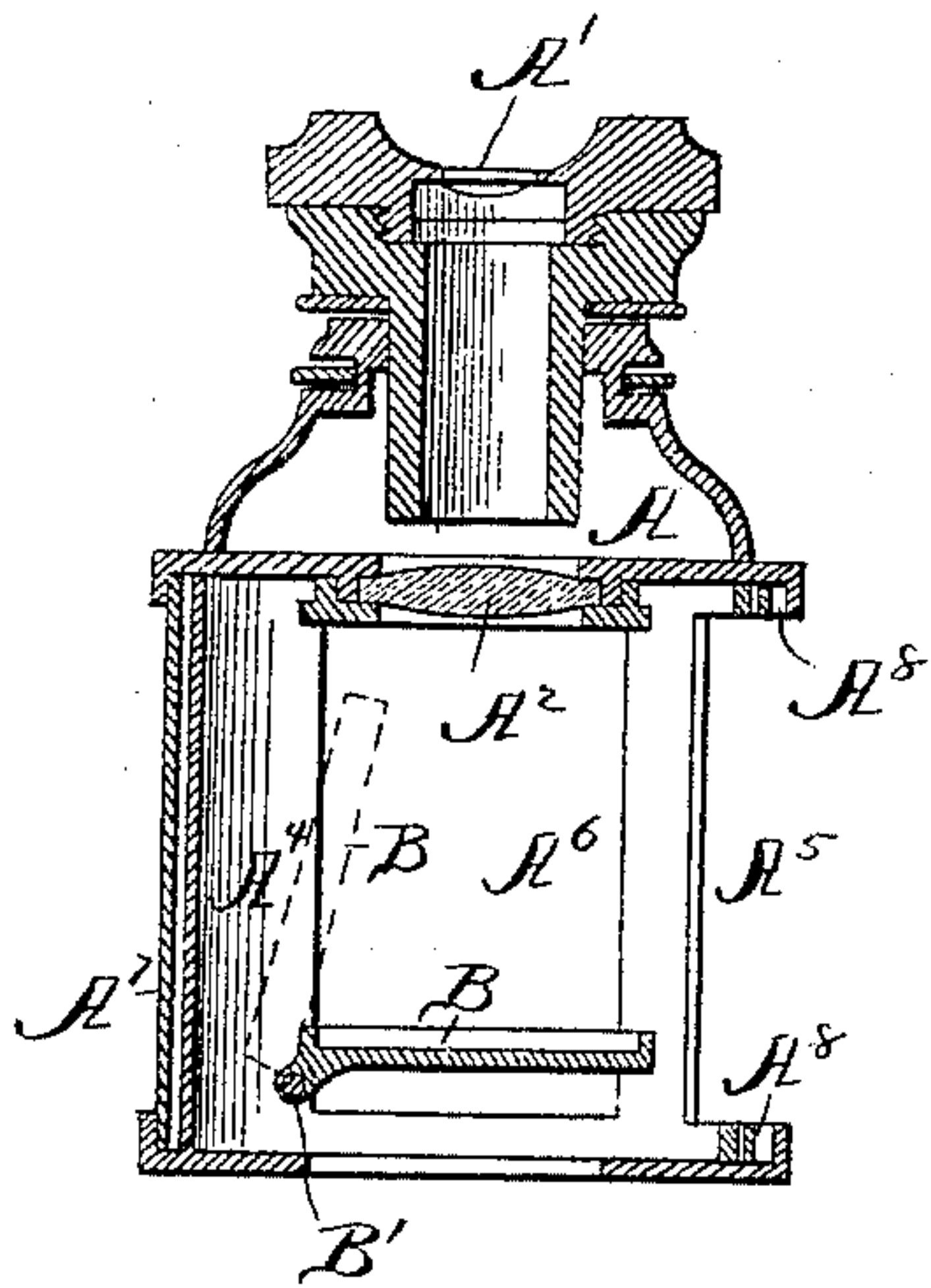
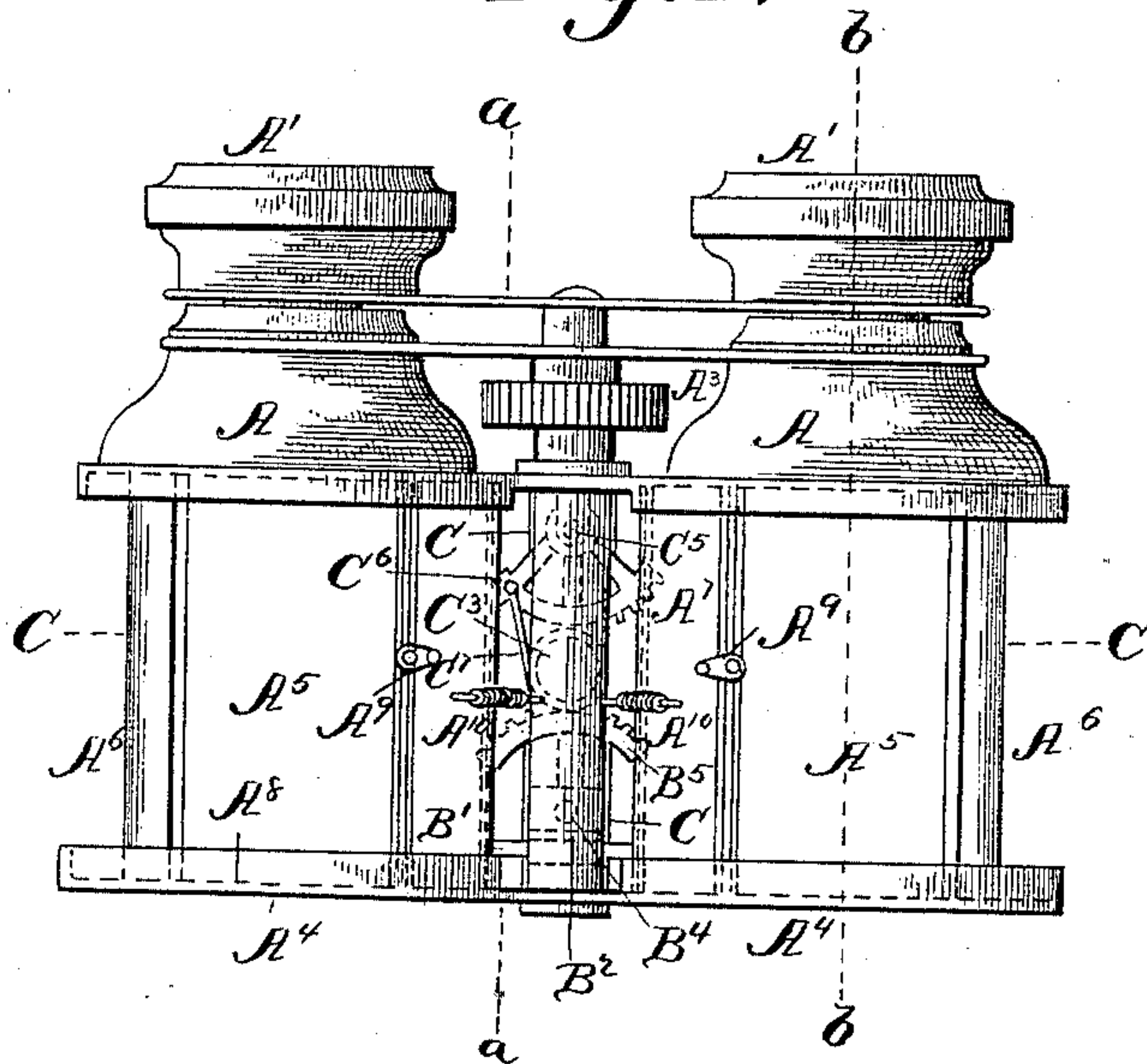


Fig. 1.



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J. S. Barker.

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James Green,
by Richards & Co.
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Fig. 2.

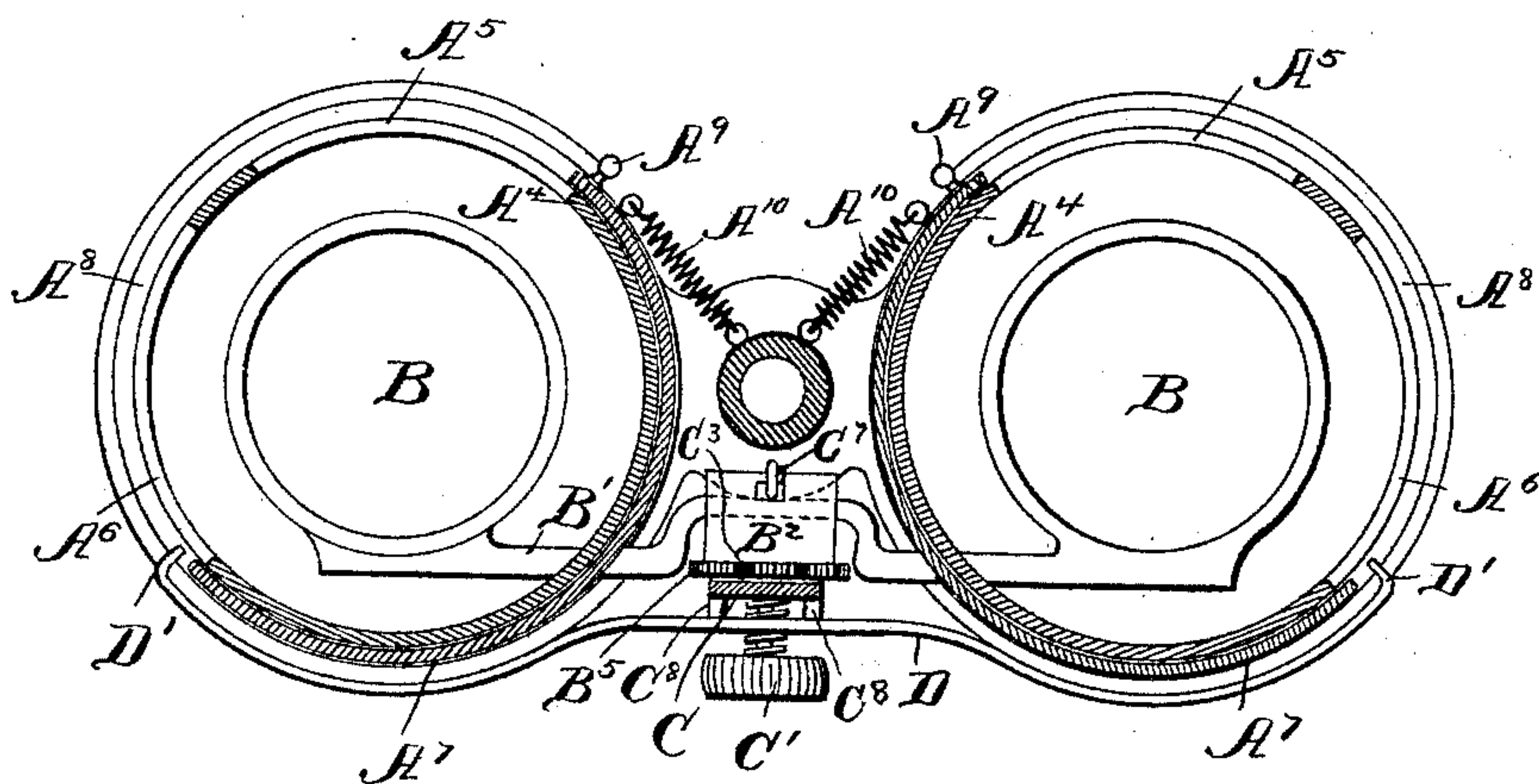
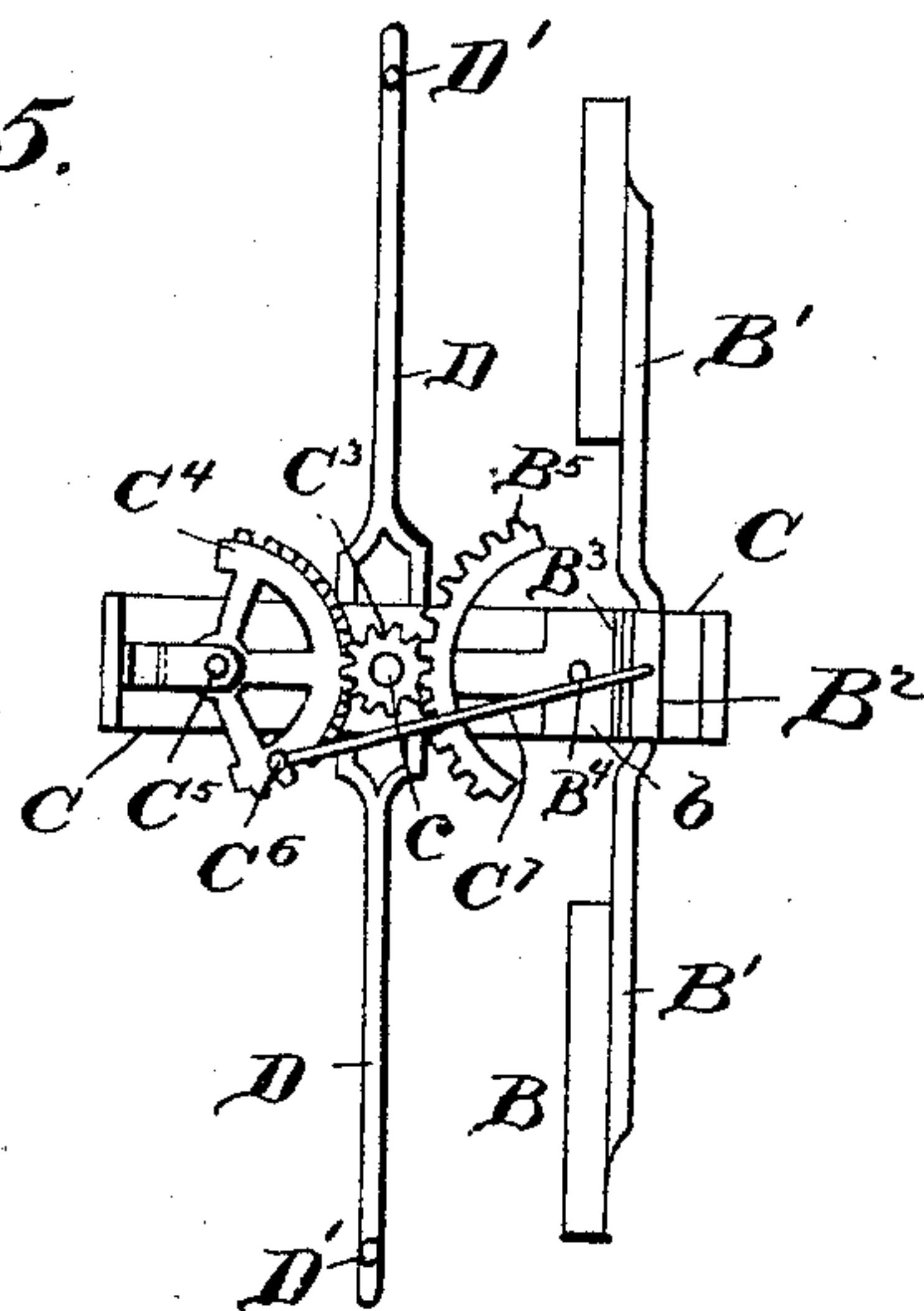


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES GREEN, OF BURWOOD, NEW SOUTH WALES.

LORGNETTE OR OPERA-GLASSES.

SPECIFICATION forming part of Letters Patent No. 458,734, dated September 1, 1891.

Application filed June 3, 1890. Serial No. 354,167. (No model.)

To all whom it may concern:

Be it known that I, JAMES GREEN, jeweler, a subject of the Queen of Great Britain, residing at Burwood, near Sydney, in the British Colony of New South Wales, have invented new and useful Improvements in Lorgnettes and such Like Instruments, of which the following is a specification.

This invention relates to lorgnettes or opera-glasses and such like instruments for viewing distant objects, and it has been devised in order to construct more convenient and handy forms of such lorgnettes as are described and claimed in the specification attached to my previous application for Letters Patent of the United States, filed on the 13th day of May, 1890, Serial No. 351,702.

These present improvements in lorgnettes and such like instruments consist, first, in the particular combinations and arrangements, with the eyeglasses and the object-glasses, of an extended casing containing mirrors or reflectors, and, secondly, in the particular combinations and arrangements, with the eyeglasses, the object-glasses, and the mirrors, of the mechanical parts hereinafter more particularly described and explained.

In order that this invention may be clearly understood, reference will now be made to the drawings herewith, in which—

Figure 1 is a plan of a lorgnette constructed according to my present improvements. Fig. 2 is cross-section of same on line *c c*, Fig. 1. Figs. 3 and 4 are sectional elevations on lines *a a* and *b b*, respectively, in Fig. 1, while Fig. 5 is a detail plan.

In the drawings, *A A* represent telescope opera-glasses; *B B*, the mirrors; *C*, the carrier-plate, and *D* a spring-bar. *A' A'* represent eyeglasses and lens; *A² A²*, the object-glasses; *A³*, the focus-screw, and *A⁴ A⁴* the cylindrical extensions of the telescopes or glasses.

A⁵ and *A⁶* designate apertures in the extensions. *A⁷* and *A⁷* are sliding shutters for closing such apertures.

A⁸ are grooves or guides in the end pieces of the extensions *A⁴*, in which the shutters work.

A⁹ are knobs carried by the shutters, and *A¹⁰* are springs connected therewith.

B' is the bar which carries the mirrors *B*,

and *A¹¹* are slotways in the extensions *A⁴*, through which the said bar passes.

B² is a plate which carries the bar *B'*, and is hinged at *B³* to a plate or arm-extension *b* of a sector *B⁵*, which is pivoted at *B⁴* to the carrier-plate *C*.

C³ is a pinion mounted upon the upper end of a sliding shaft *c*, which has at its lower end a thumb-screw or knob *C'*, between which and the plate *C* is mounted a spring *C²*. *C⁴* is another sector mounted in a bearing *C⁵* and adapted to be engaged by the pinion *C³*. It is provided with a crank-pin *C⁶*, which is connected by the rod *C⁷* with the plate *B²*.

C⁸ C⁸ are resistance-pieces, and *D' D'* are the bent ends of the bar *D*, which are adapted to engage with and hold the shutters when they are moved to close the openings *A⁵ A⁶*.

When the mirrors or reflectors are in use, the observer is enabled to sit with his back to the object, or at any angle at which he desires to view the object, which is reflected upon the mirrors or reflectors through the apertures *A⁵* and *A⁶* in the circular casing *A⁴*, the focus of the glasses being adjusted in the usual manner by means of the focus-screw *A³*. The position of the mirrors with the central line of the instrument is adjusted by turning the thumb-screw *C'* and causing the tooth-pin *C³*, by gearing with the sector-wheel *B⁵*, to move the plate *b* on its pivot, and with it to turn the plate *B²* and the bar *B'* until the mirrors or reflectors have attained the required angle to include the object to be viewed.

When the mirrors or reflectors are not in actual use and it is desirable to use the lorgnette in the ordinary way, or when it is desirable to alter the angle of the mirrors relative to the plane of the object-glasses, the thumb-screw and spring-knob *C'* is pressed upward, so as to compress the spring *C²* and lift the toothed pinion *C³* out of gear with the sector-wheel *B⁵* and into gear with the sector-wheel *C⁴*, and then partially revolving said thumb-screw *C'*, the carrier-plate *B²* is turned backward and downward or forward and upward on hinge *B³* by means of connecting-rod *C⁷*, and the mirrors thereby adjusted at any desired angle or drawn down into the bottom of the casing *A⁴*, as shown in dotted lines in Fig. 4. The slotway *A''* allows of free movement of bar-frame *B'* either up or down

or laterally. The shutters A^7 are then drawn over the apertures A^5 and A^6 , sliding in grooves A^8 until the bent ends D' of spring-bar D enter the hooks of knobs A^9 and hold the shutters in a closed position. When, now, the thumb-screw C' is partially revolved—say with wheel C^3 in gear with sector-wheel C^4 —to raise the mirrors into a “used” position, the boss of said thumb-screw C' presses on the bar D , causing said bar to bend between the resistance-pieces C^8 , so that the ends D' will spring outward and release knobs A^9 , so that the springs A^{10} will cause the shutters to fly back and open the apertures A^5 and A^6 .

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The combination and arrangement, with a lorgnette or binocle having a pair of mirrors, such as B , of a cylindrical extension, such as A^4 , having orifices, such as A^5 and A^6 , and a sliding shutter, such as A^7 , substantially as herein described and explained, and as illustrated in the drawings.

2. The combination and arrangement, with a lorgnette or binocle having a cylindrical extension, of a pair of mirrors or reflectors, such as B , bar-frame, such as B' , carrier-plate, such

as B^2 , hinge, such as $B^3 B^4$, sector-wheel, such as B^5 , pinion, such as C^3 , and thumb-screw, such as C' , substantially as herein described and explained, and as illustrated in the drawings.

3. The combination and arrangement, with a lorgnette or binocle having a cylindrical extension with orifices, such as A^5 and A^6 , and sliding shutters, such as A^7 , of guides, such as A^8 , hooks or push-knobs, such as A^9 , springs, such as A^{10} , hooks or bent ends, such as D' , spring-bar, such as D , and resistance-pieces, such as C^8 , substantially as herein described and explained, and as illustrated in the drawings.

4. The combination and arrangement, with a lorgnette or binocle having a cylindrical extension, of a carrier-plate, such as C , a thumb-screw and spring-knob C' , C^2 , toothed pinion, such as C^3 , sector, such as C^4 , crank-pin, such as C^6 , connecting-rod, such as C^7 , hinge-plate, such as B^2 , and bar-frame, such as B' , substantially as herein described and explained, and as illustrated in the drawings.

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Witnesses:

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THOS. J. WARD.