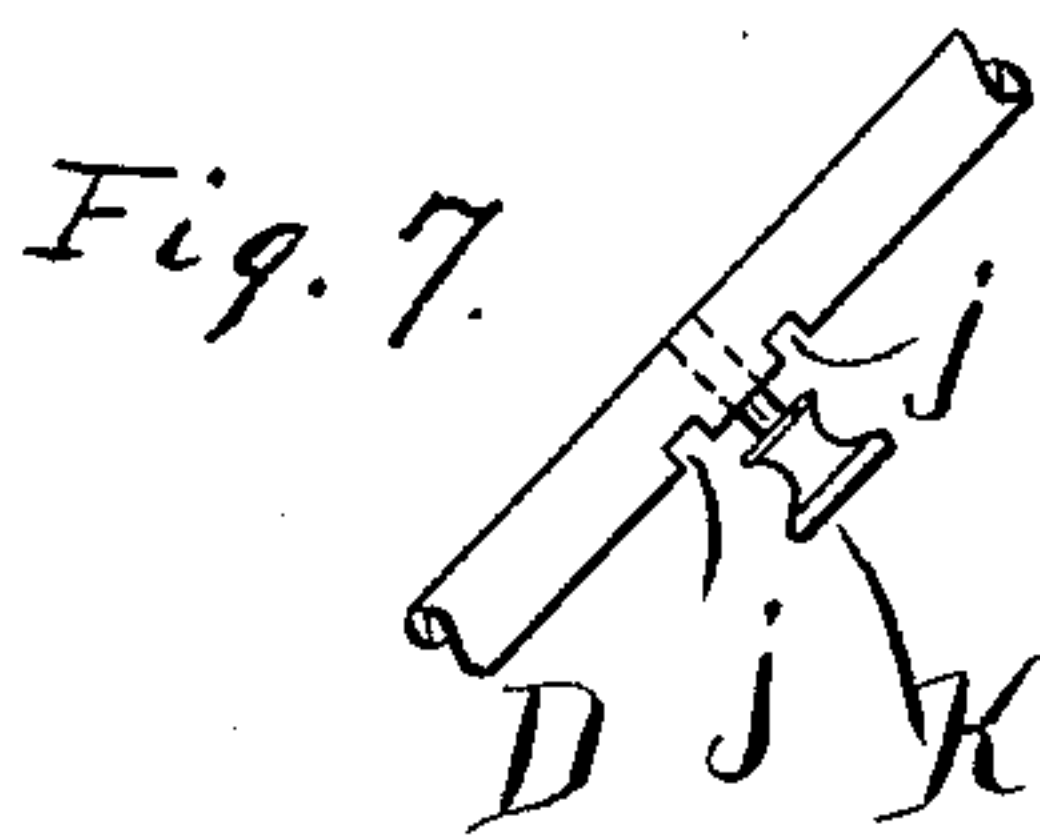
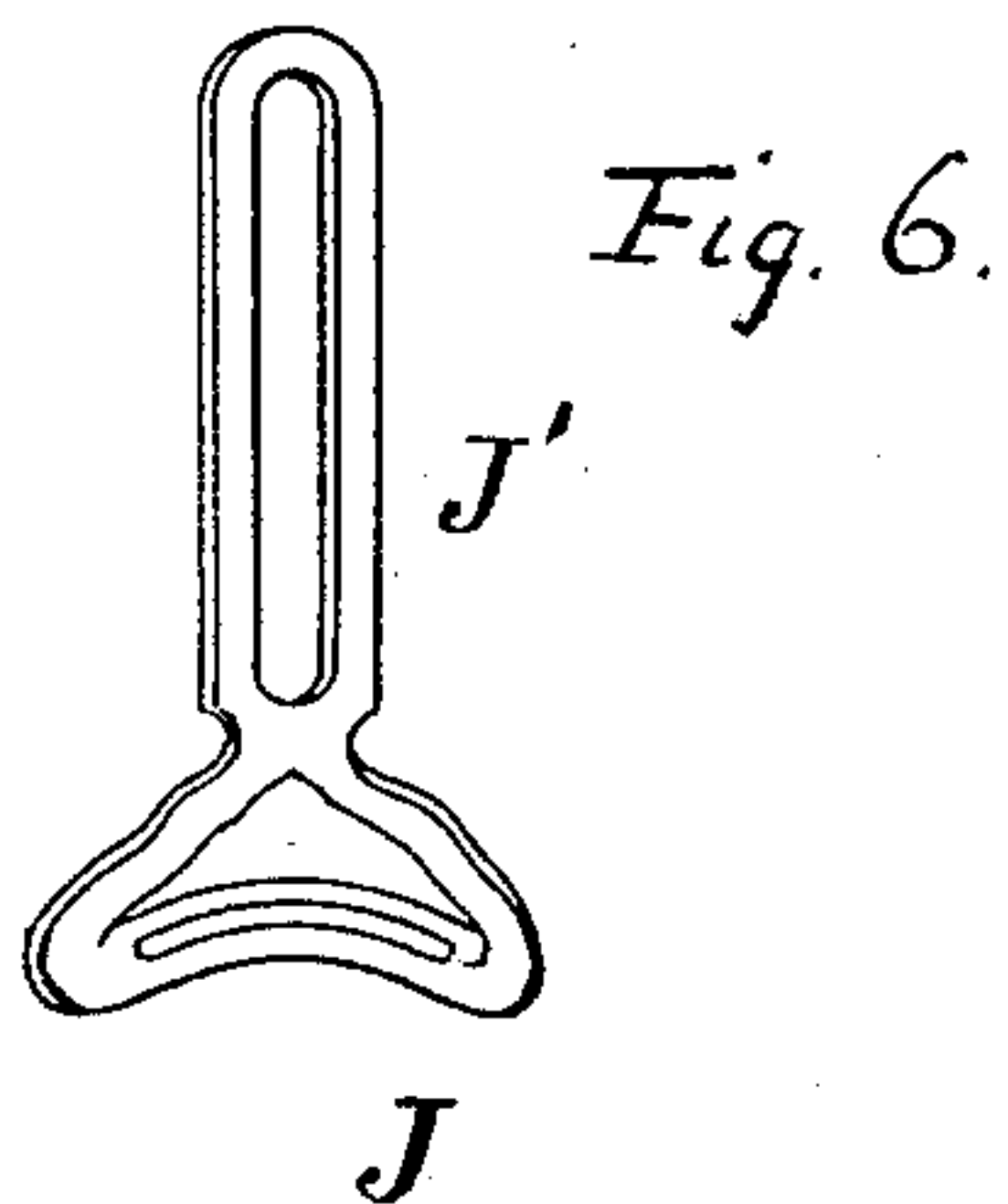
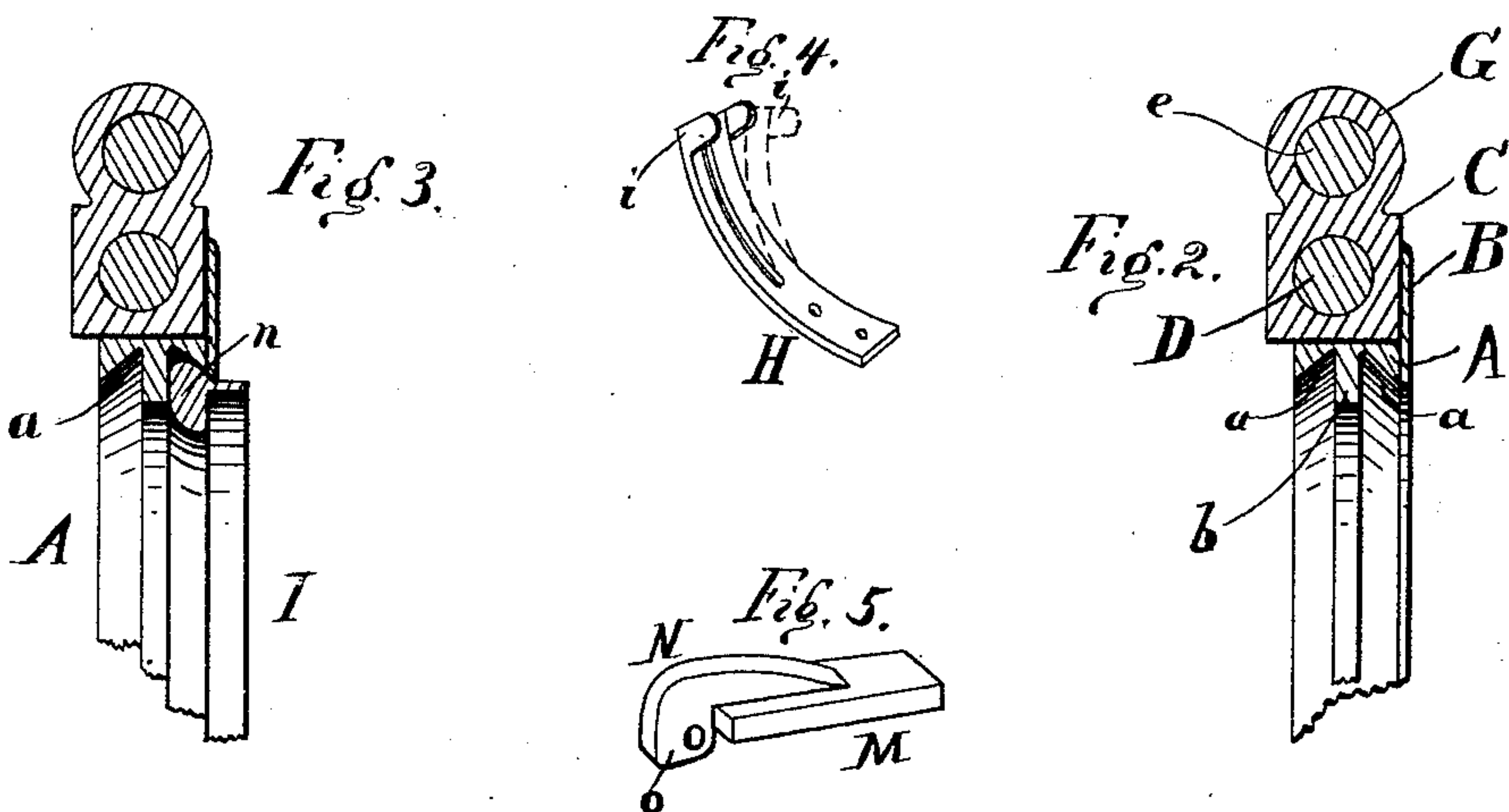
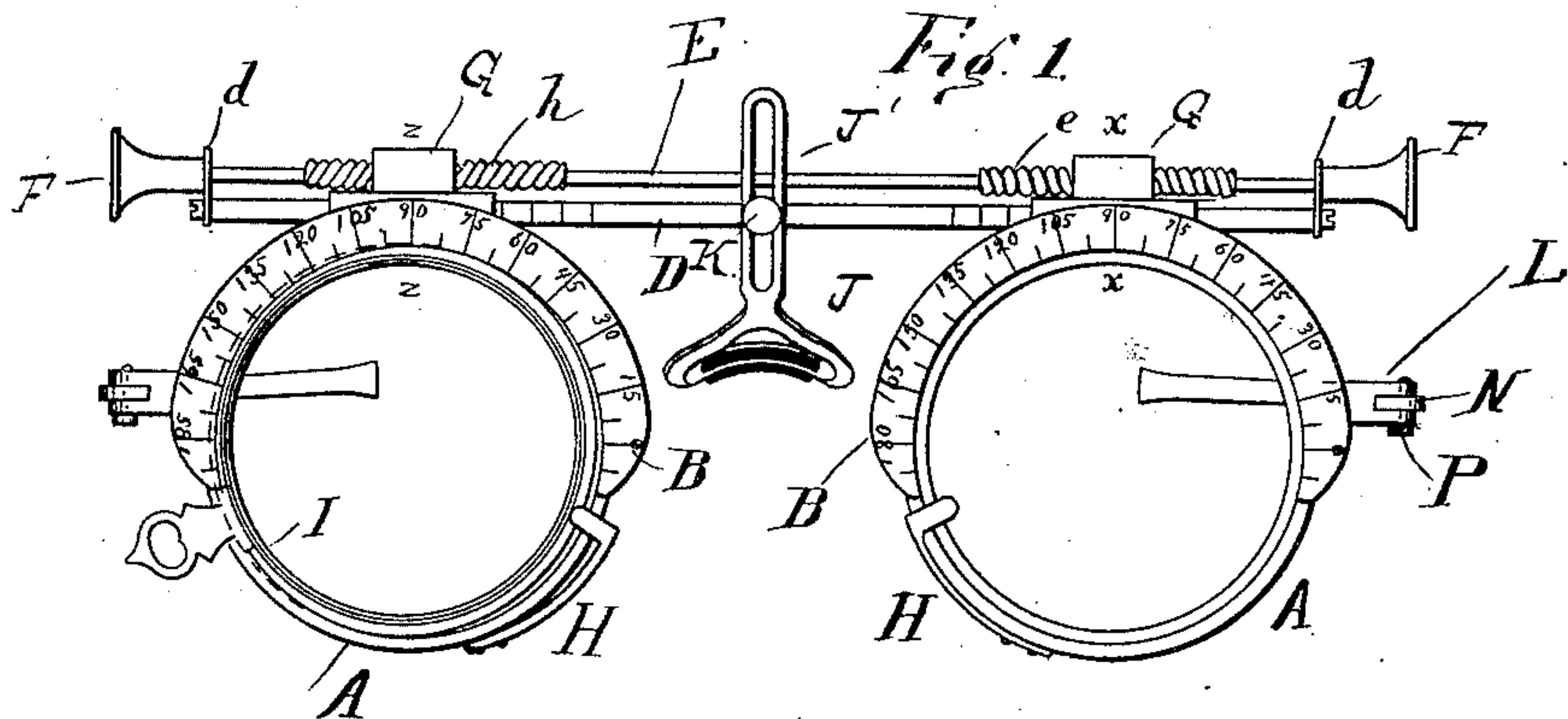


(No Model.)

M. J. HINDEN.  
SPECTACLE GAGE.

No. 437,030.

Patented Sept. 23, 1890.



Witnesses  
C. J. Cross  
Amy H. Johnson

Inventor  
Mathias J. Hinden  
By his Attorney, Osborn & Co

# UNITED STATES PATENT OFFICE.

MATHIAS J. HINDEN, OF CLEVELAND, OHIO, ASSIGNOR TO JULIUS KING, OF SAME PLACE.

## SPECTACLE-GAGE.

SPECIFICATION forming part of Letters Patent No. 437,030, dated September 23, 1890.

Application filed February 24, 1890. Serial No. 341,584. (No model.)

*To all whom it may concern:*

Be it known that I, MATHIAS J. HINDEN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Spectacle-Gages, of which the following, with the accompanying drawings, is a specification.

This invention relates to certain new and useful improvements in spectacle-gages.

The object of the invention is to provide a cheap and simple frame in the use of which the optician can readily obtain the pupillary measurement and ascertain the number of power of lens required.

To this end the invention consists in the peculiar construction of the frame proper and the means employed for adjusting the same to or from each other, in the means for securing the removable lens-rings within the frame, in the construction of the temple-joint, and in the peculiar construction, arrangement, and combinations of the parts, all as more fully hereinafter set forth, and pointed out in the claim.

Figure 1 is a front elevation of my improved spectacle-gage with one lens-ring in place within the frame. Fig. 2 is an enlarged cross-section on the line  $x x$  in Fig. 1. Fig. 3 is a similar view on the line  $z z$ , same figure. Figs. 4 and 5 are enlarged details of construction. Fig. 6 is an enlarged plan of the nose-piece detached. Fig. 7 is an enlarged elevation of a portion of the rod D, showing the slots which receive the slotted shank of the nose-piece.

In the accompanying drawings, which form a part of this specification, A A represent two metal annular frames, the inner face of each of which is provided with two annular undercut channels  $a a$  near each edge, leaving a central annular and inwardly-projecting flange  $b$ . Secured to each of these rings is a segment B, the front faces of which are graduated, as shown.

C are guide-blocks secured to the upper portions of the frames A, and these guides are bored longitudinally to receive the round rod D. To each end of this rod is secured a post  $d$ , through which pass the ends of the

shaft E, the projecting ends having secured to them proper heads F, by means of which the said shaft may be rotated. Upon this shaft are formed the right and left hand screws or threads  $e$  and  $h$ , which are adapted to engage with the threaded nuts G, mounted upon or forming an integral part of the guides C. The rod D is graduated outwardly from its longitudinal center, as shown.

H H represent springs which are designed to hold the lens-rings within the frames A. One of these springs is shown in enlarged perspective in the drawings, Fig. 4. This spring is rigidly secured at one end to the frame A, its opposite end being split or bifurcated, each arm of such bifurcation being provided with a lip  $i$ , adapted to overlap the adjacent edge of the frame to which it is attached.

The lens-ring I is secured in the frame A by inserting one edge of its flange  $n$  beneath the lip  $i$  of the spring, which latter is then pushed outwardly, allowing the lens-ring to rest within the frame A upon the flange  $b$ , the resiliency of the spring keeping it within the undercut channel  $a$ .

It will be observed upon reference to the drawings that the lens-rings may be inserted and secured within the frames from either side thereof and that they can be readily turned within the frames, as circumstances may require.

J represents a nose-piece, the shank  $J'$  of which is slotted and adapted to be received in the ways  $j$ , formed in the rod D, and to be retained thereupon by means of the thumb-nut K. By this construction the nose-piece is adapted to have a vertical sliding movement or adjustment on the rod, and by these means the height of the lenses may be adjusted.

Each of the frames A is provided with an ear L, bifurcated or split to receive the heel of the temple-plate M. To the inner end of this temple is rigidly secured a plate N, by soldering or other proper means, of a suitable thickness to fit within the split ear, and is secured in place therein by a screw P. The plate N, being substantially of the form shown, is free to turn inwardly in closing the temple,



while its heel O will come in contact with the ear and serve as a stop to prevent the temple from being opened too far outwardly.

5 The frame A can be readily moved inwardly or outwardly by rotating the shaft E until an object is distinctly seen by both eyes through the centers of the glasses, and the pupillary distance is read off on the graduated rod D.

10 The practical optician will readily perceive the advantages gained in the present construction over those now in use, and as the general operation of devices of this character is so well understood it is not deemed necessary to  
15 here enter into a full description of such operation.

What I claim as my invention is—

In a spectacle-gage, the combination of two

eye-frames adapted to be adjusted to or from each other upon the same horizontal plane 20 and provided with the undercut channels separated by a central inwardly-projecting annular flange, bifurcated springs having lips adapted to overlap the edges of said frames, and lens-rings provided with annular 25 flanges adapted to engage said undercut channels and be held therein by the resiliency of said springs, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 18th day of 30 February, 1890.

MATHIAS J. HINDEN.

Witnesses:

H. S. SPRAGUE,

H. L. WARREN.