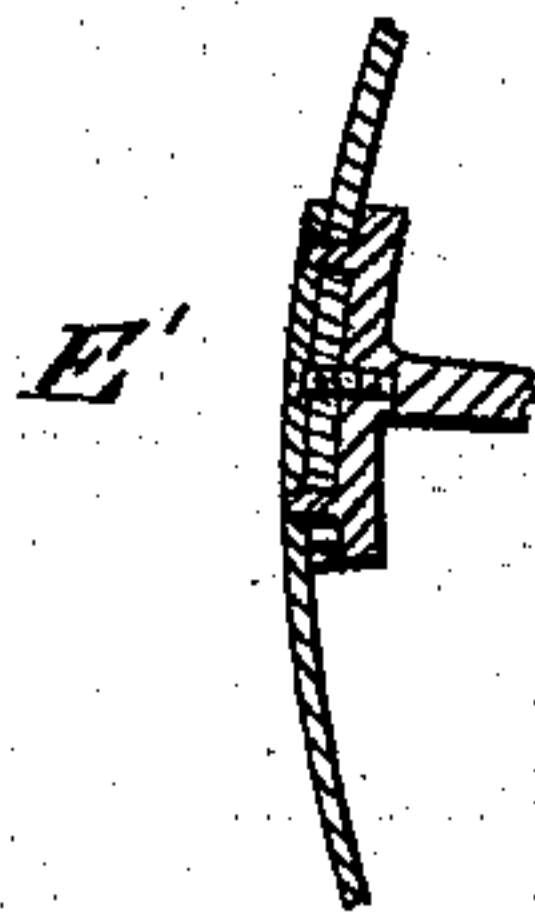
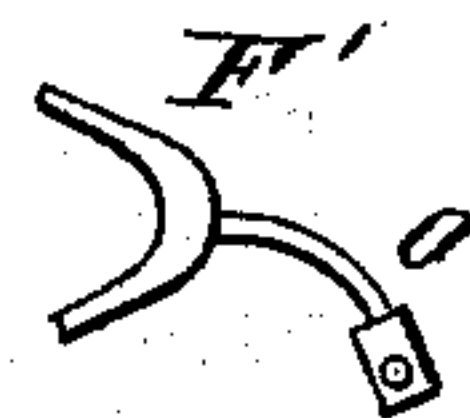
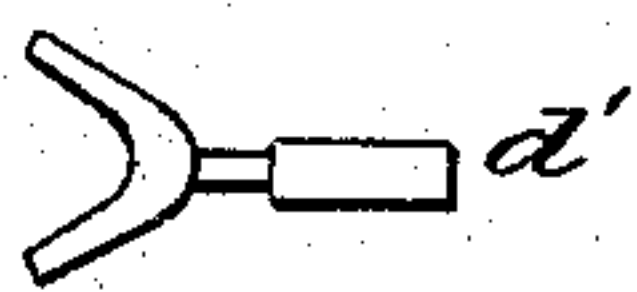
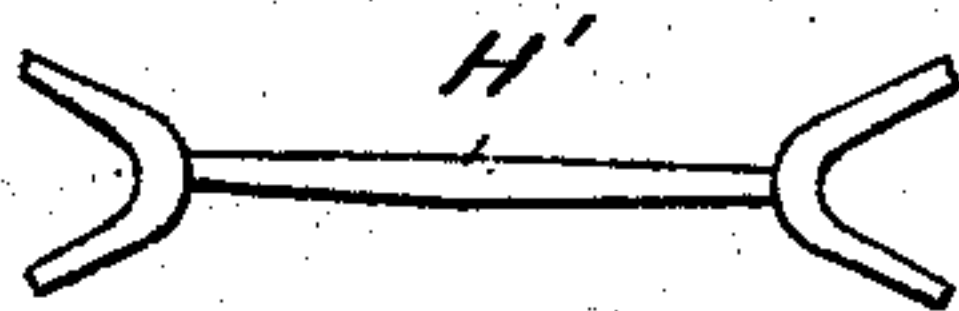
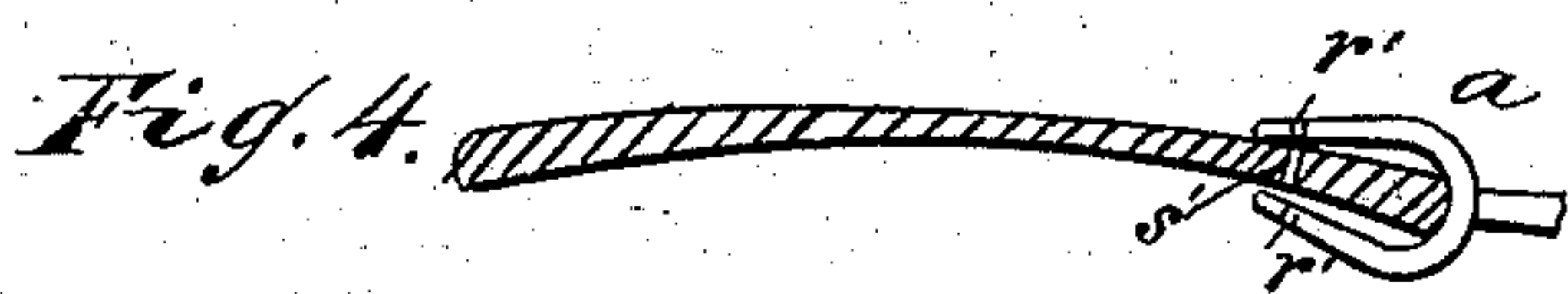
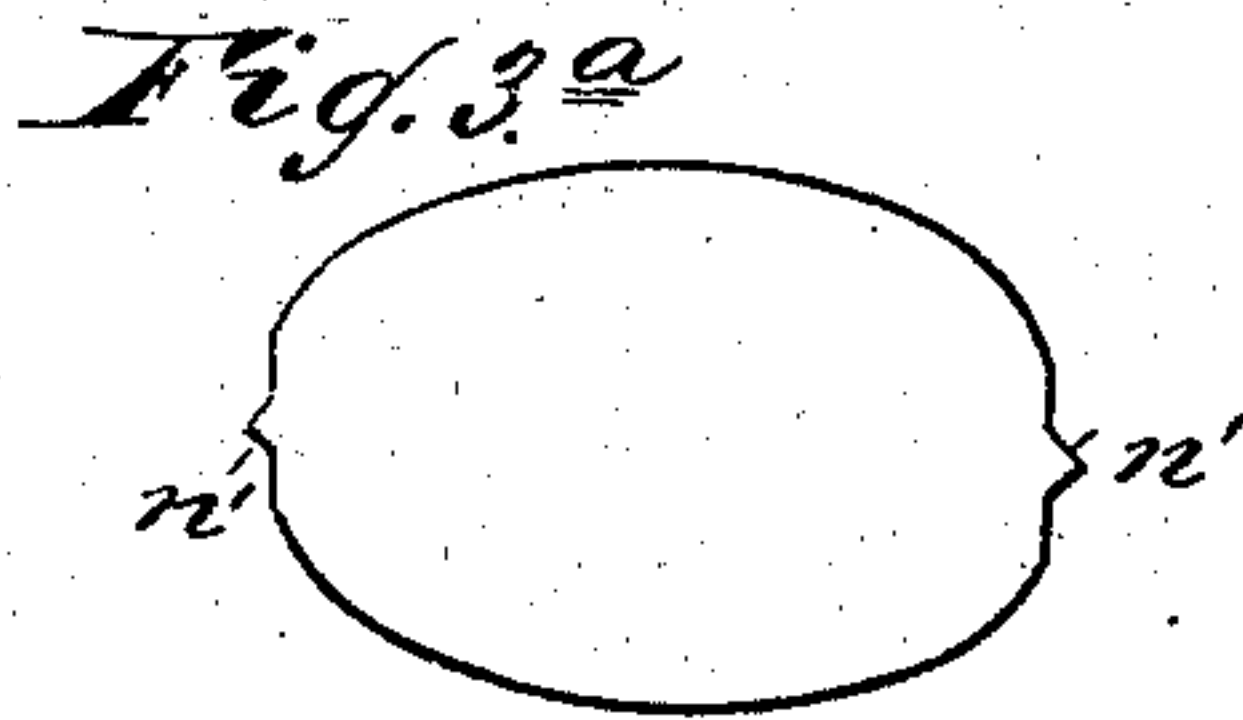
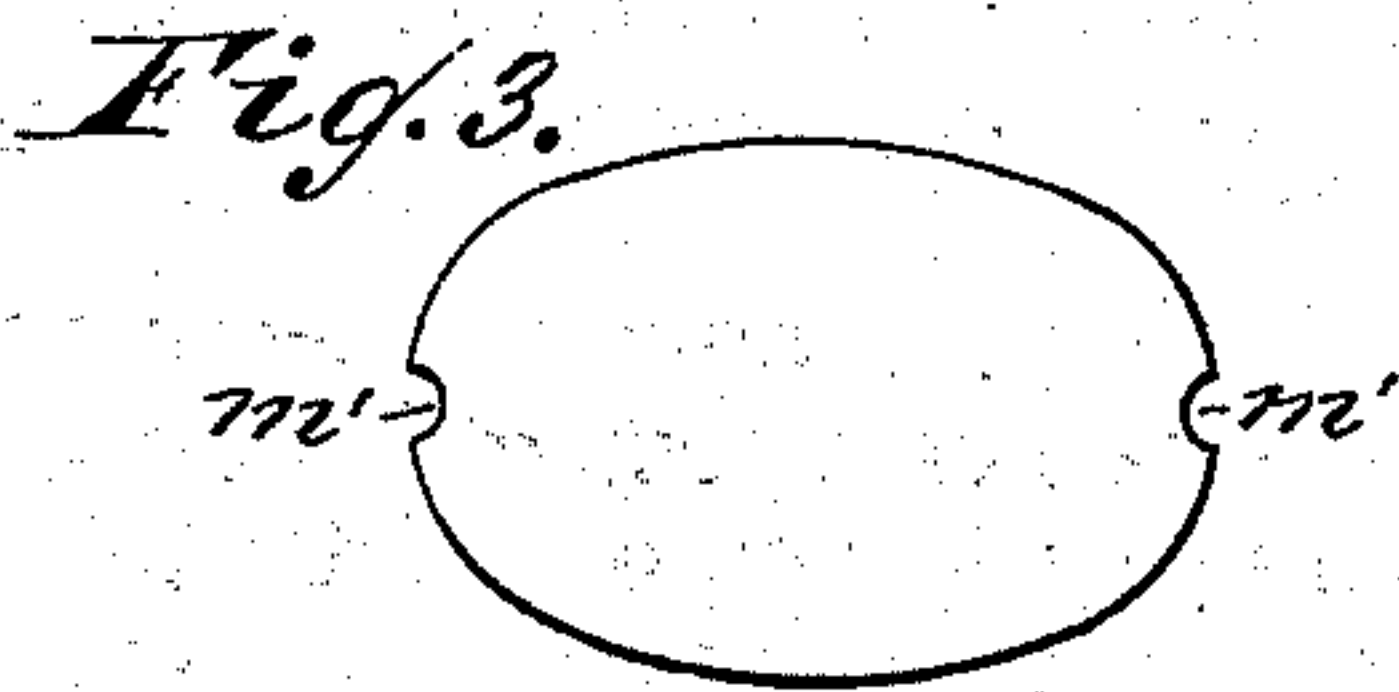
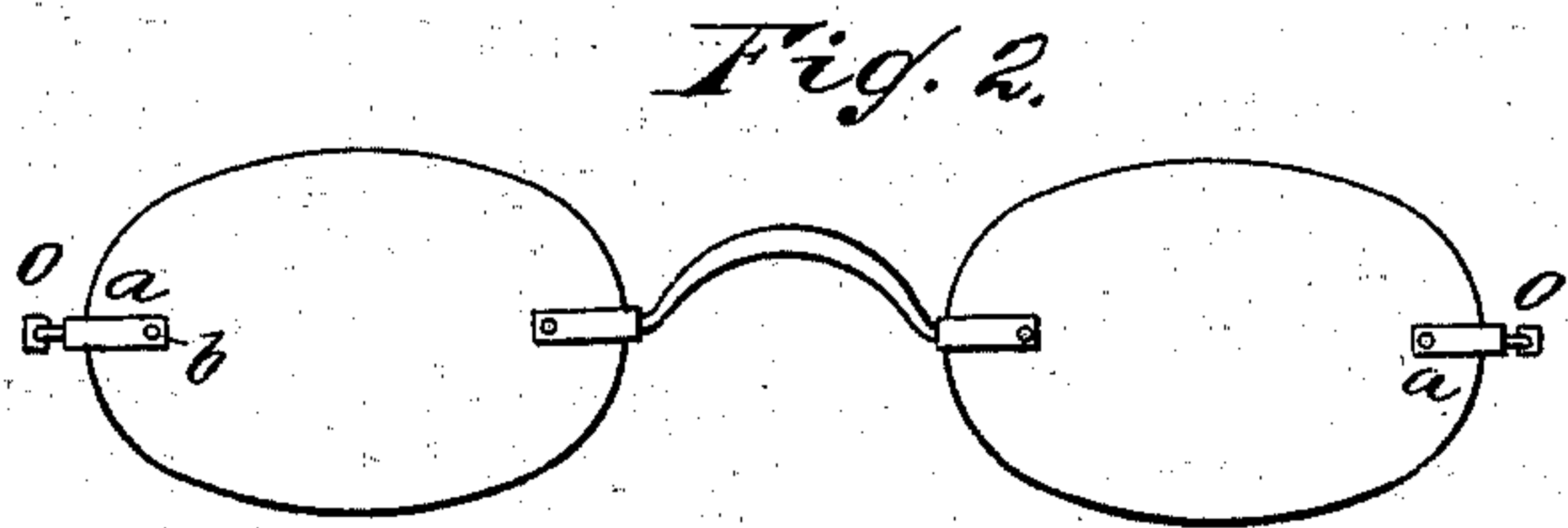
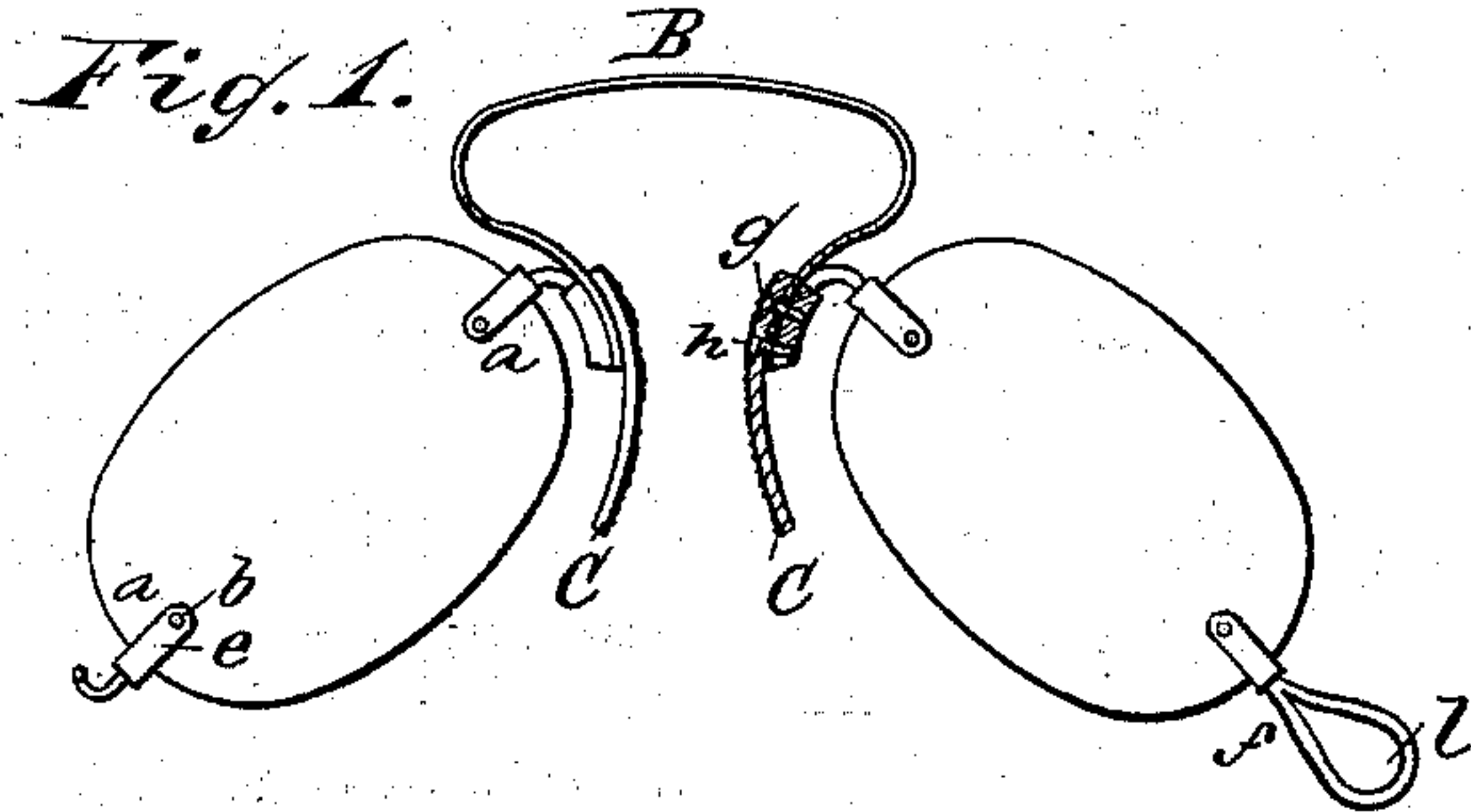


(No Model.)

R. A. CARTER.  
SPECTACLES AND EYEGLASSES.

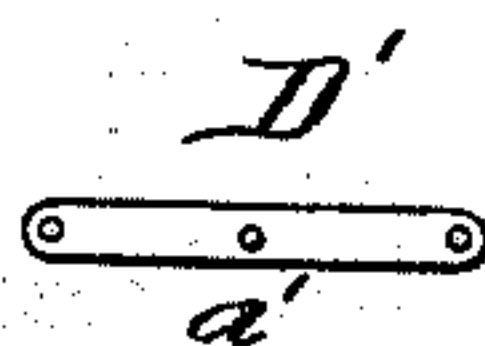
No. 267,644.

Patented Nov. 14, 1882.



WITNESSES:

*Theo. Hoster*  
*C. Sedgwick*



INVENTOR:

*R. A. Carter*

BY

*Mum & Co*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

ROBERT A. CARTER, OF ELIZABETH, ASSIGNOR TO THE WARWICK MANUFACTURING COMPANY, OF NEWARK, NEW JERSEY.

## SPECTACLES AND EYEGLASSES.

SPECIFICATION forming part of Letters Patent No. 267,644, dated November 14, 1882.

Application filed May 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT A. CARTER, of Elizabeth, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Spectacles and Eyeglasses, of which the following is a full, clear, and exact description.

My invention relates to the construction of frameless spectacles and eyeglasses, especially to those in which a screw or bolt passes through the glass and through the arms of the clip. It is, however, also applicable to glasses which are not perforated, but furnished with one or more cavities engaging projections on the clip.

The invention consists in certain novel features of construction in the clips, in their attachment to the shank and to the nose-pieces, also in the catch which engages with the handle, and by which the glasses are kept closed, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a pair of eyeglasses, and Fig. 2 a pair of spectacles, embodying my improvements. Figs. 3, 4, and the remaining figures represent details of my improvements.

The spring and serrated nose-piece of the eyeglasses and the temples of the spectacles are of the usual form. *a* are the clips, secured by screw or bolt *b*, that passes through the glass. The clips are manufactured by punching out fork-shaped pieces of metal, as shown in the figure, *A'*, and at the uniting point of the two arms of the fork a hole, *a'*, is drilled; or, instead of punching out a piece of metal of the form shown at *A'*, a piece may be punched out of the form shown at *D'*, and the extremities bent toward each other in order to form the fork, the hole *a'* being provided, as before. Into the hole of the fork the shank *b'* is fastened by screwing, soldering, or in any other manner. The shank may be either a round wire, or square, or other form in section, and as inserted it coincides with the axis of the fork, so that the whole can be made to revolve around that axis for its reduction by a turning-lathe or otherwise. To form the piece for connection with the spring and nose-piece, a portion of the shank (shown at *d'*) is left square

or other suitable shape, and the shank is then to be bent in the form shown at *f'*, so that the portion *d'* forms an elongated block, to which the spring *B* and serrated nose-piece *C* are to be secured by the screws *g h*. If desired, the block *d'* may be formed with two pins or lugs, as shown at *E'*, for entering holes in the spring and nose-piece. In that case a single screw will be all that is required to retain the parts in place. The block may also be made as a T-piece upon the end of the shank, as shown at *E'*.

Hitherto eyeglasses have been kept closed by means of a projecting pin on the handle engaged by a hook or catch attached to the other glass. In my improved construction I dispense with the pin upon the handle and engage the catch directly with the handle. *e* is the catch for retaining the glasses closed. This is made by forming the clip with a shank of suitable length and bending the shank at right angles, so that when the catch is applied to the glass the hook end projects at right angles to the plane of the glasses in position for catching upon the handle *f*. It is evident that in spectacles and eyeglasses having frames this hook or catch may be formed in the same manner upon the frame, the clip in that case not being required.

Heretofore the handles have consisted of a clip and a loop connected by a body or intermediate portion, into which the retaining-pin was inserted. By my construction the intermediate portion can be dispensed with and the loop attached directly to the clip.

To form the handle, its attaching-clip is made with a round shank of suitable length, which is bent into a loop, *l*, either before or after the attachment of the shank to the fork or clip.

The central part of the spectacles is formed by attachment of the forks to each end of a shank, as shown at *H'*, the whole being then turned and the shank bent into a bridge. To form the hinge-piece *o*, a portion of the shank is made smaller. The shank is then bent and its outer and thicker portion slotted to complete the hinge, as shown at *F'*.

To prevent the clips from moving on the glass, a recess, as shown at *m'* in Fig. 3, is cut in the end of the glass, for receiving and en-



gaging the bottom of the clip or projection therefrom; or, if preferred, a recess may be made in the bottom of the clip, and a projection, as shown at  $n'$  in Fig. 3<sup>a</sup>, formed on the glass, for entering the recess in the clip.

To hold the glass with greater firmness, I make use of elastic clips in which the distance between the arms at the base is greater than the thickness of the glass, so that there is space between the arms and glass to admit of the arms being bent toward each other. The hole in the glass, as shown at  $s'$ , Fig. 4, is farther from the base of the clip than the holes in the arms. Consequently the arms must be bent in order to bring the holes  $r'$  into line with the hole  $s'$ , and when the screw is inserted the elasticity of the arms will keep the ends of the glass pressed against the bottom of the clip, and also the screw pressed against the side of the hole.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A clip for spectacles and eyeglasses, provided with a shank attached in a hole formed

in the base of the clip, substantially as herein shown and described.

2. A catch for eyeglasses, consisting of a clip having its shank bent to form a hook projecting at right angles to the plane of the glass, in order to engage the handle of the glasses, as set forth.

3. In spectacles and eyeglasses, a clip attached to the glass, with the edge of the glass engaging the bottom of the clip, substantially as herein shown and described.

4. In spectacles and eyeglasses, a spring clip attached by a screw passing through the glass and bent outward, so that its elasticity acts to draw the glass into the clip, as specified.

5. In spectacles and eyeglasses, the clips formed with elongated blocks  $d'$ , to which the spring and nose-piece are held by screws or a screw and pin, substantially as described.

ROBERT A. CARTER.

Witnesses:

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C. SEDGWICK.