

No. 730,450.

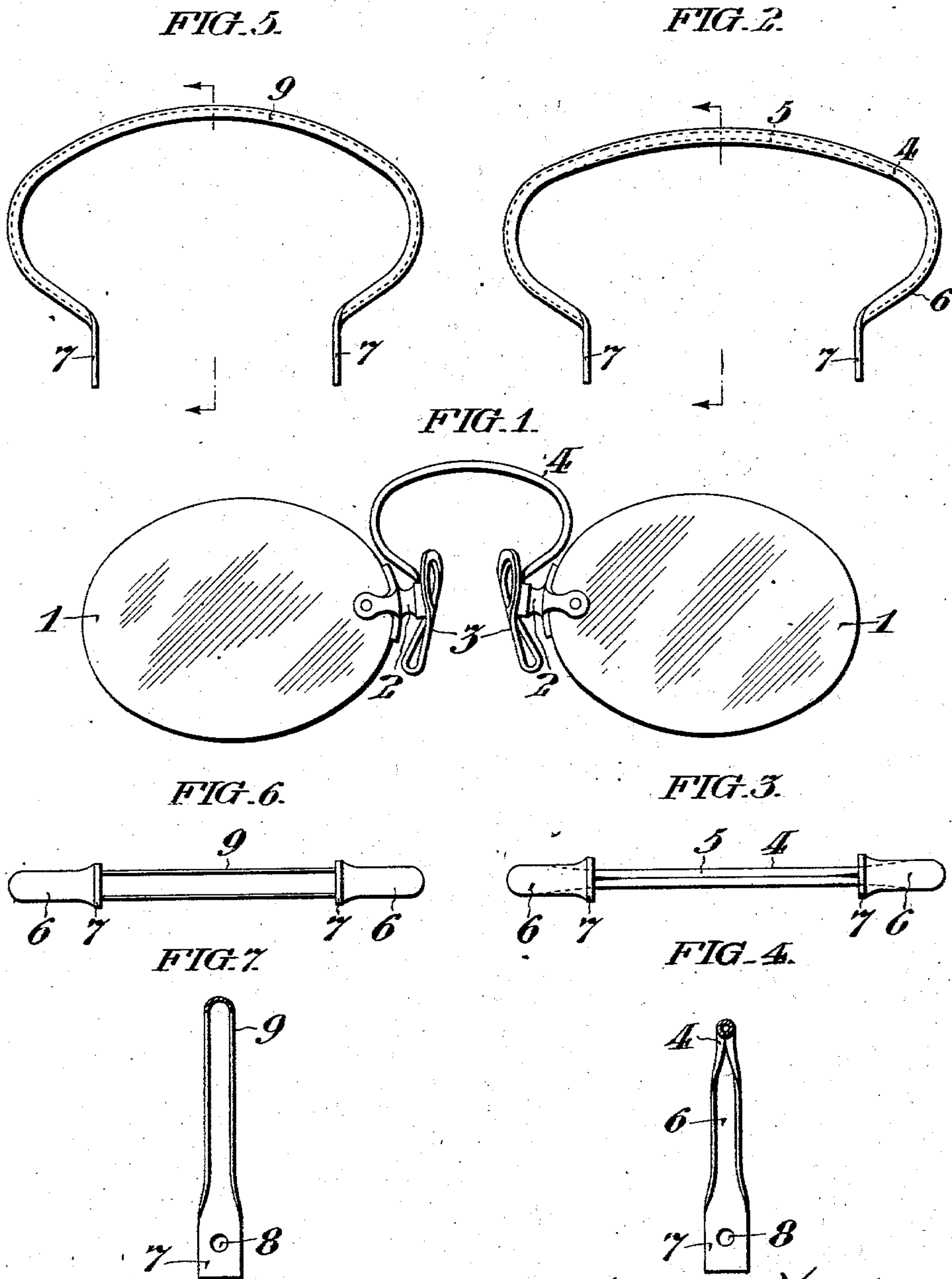
PATENTED JUNE 9, 1903.

I. FOX.

BOW SPRING FOR EYEGLASSES.

APPLICATION FILED NOV. 13, 1902.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

IVAN FOX, OF LANSDOWNE, PENNSYLVANIA.

BOW-SPRING FOR EYEGLASSES.

SPECIFICATION forming part of Letters Patent No. 730,450, dated June 9, 1903.

Application filed November 13, 1902. Serial No. 131,145. (No model.)

To all whom it may concern:

Be it known that I, IVAN FOX, a citizen of the United States, residing at Lansdowne, county of Delaware, and State of Pennsylvania, have invented certain new and useful Improvements in Bow-Springs for Eyeglasses, of which the following is a specification.

In its generic aspect, this invention relates to eye glass frames, and specifically to the bow spring element thereof.

An eye glass frame is comfortable and satisfactory to the wearer thereof in proportion to its lightness; also the cost of an eye glass frame depends upon the amount of metal necessary to be employed in its construction, such cost decreasing in direct proportion to the lightness of the frame.

Accordingly, a great desideratum in the construction of eye glass frames has been to secure the greatest possible lightness consistent with the requisite strength. Stated differently, it may be said that one of the principal objects sought after in the construction of eye glass frames is to secure the requisite strength by the use of the smallest possible quantity of metal.

To these ends I have utilized, in the construction of the bow spring for eye glass frames, a well-known fact in physical science, namely, that a given amount of metal formed into a tube or which is of arcuate shape in transverse section, that is, curved transversely, subject to certain limitations, possesses greater strength than the same amount of metal in a solid condition and which is in the form of a solid cylinder, or which has a transverse section of rectangular or similar outline.

My invention consists of a bow spring for eye glasses, which is either of tubular or transversely curved outline. For a clearer understanding of my invention, reference is to be had to the accompanying drawings, in which

Figure 1 is a rear elevation of a pair of eye glasses provided with a tubular bow spring.

Figure 2 is a side elevation of the bow springs shown in Figure 1, the lenses and other parts being omitted.

Figures 3 and 4 are bottom plan and transverse sectional views, respectively, of the bow spring shown in Figure 2.

Figure 5 is a side elevation of a modified form of bow spring.

Figures 6 and 7 are bottom plan and transverse sectional views, respectively, of the bow spring shown in Figure 5.

I regard the form of bow spring which is illustrated in Figures 1 to 4, inclusive, as being preferable to that which is illustrated in Figures 5 to 7, inclusive.

In Figure 1, I have illustrated a pair of eye glasses in which the lenses 1 are provided with posts or standards 2, and the nose guard 3, of construction identical with that shown in my patent numbered 695,681.

4 designates a bow spring having a tubular portion 5, and arcuate shaped portions 6, which are located upon the opposite sides, respectively, of the tubular portion 5. It will be observed that the arcuate shaped portions 6 are approximately semi-tubular in transverse sectional outline, and it is to be understood that these arcuate shaped portions 6 may be either greater or less than a semi-tube. The opposite ends of the bow spring are flattened out as shown at 7, the flattened out portions being provided with an opening 8, as shown in Figure 4. The purpose of this flattened out portion and of the opening 8 is to provide means whereby the bow spring may be secured to the posts or standards 2 and whereby the lenses 1 may be secured together.

In Figures 5 to 7 I have illustrated a modified construction of bow spring in which the said spring is arc shaped and approximately semi-tubular throughout substantially its entire length.

The opposite ends of the said spring are, however, flattened out as shown at 7, and are provided with openings 8 for the same purpose as that stated with respect to the construction shown in Figures 1 to 4.

While I have illustrated the bow spring in Figures 5 to 7, and the portions 6 in Figures 1 to 4, as having a transverse section of approximately semi-tubular outline, it is obvious that advantageous results may be secured by the use of a spring, the transverse sectional outline of which forms a smaller sectional portion of a tube.

In the manufacture of the bow spring here-

in described, I prefer to curve or bend transversely, by the use of any suitable means, a flat strip of metal of any desired length, so that a transverse section thereof is of arcuate shape in outline, after which I divide it up into short sections, each section being of sufficient length to form a bow spring. The said sections are bent longitudinally to form bow springs, such as are illustrated in Figures 5 to 7, after which, if desired, the central tubular portion illustrated in Figures 1 to 4, inclusive, of the drawings, is formed in any suitable manner, as by means of a die.

The opposite end portions of the said bow spring may be flattened out in a manner most convenient, and it is obvious that the said flattened ends may be slightly curved transversely without in any way interfering with their attachment to the posts or standards 2. It is obvious that the tubular portion 5 may be made of greater or less length, as desired, without departing in any way from the spirit of this invention.

Having thus described my invention, I claim—

1. A bow spring for eye glasses having a transverse section of arcuate shape or outline, and having its opposite ends provided with suitable means for attaching it to the lenses of the eye glasses.

2. A bow spring for eye glasses comprising a portion, a transverse section of which is of arcuate shape, and the said bow spring having its opposite ends flattened for the purpose set forth.

3. A bow spring for eye glasses, comprising a semi-tubular portion and flattened end portions for the purpose set forth.

4. A bow spring for eye glasses, comprising a tubular portion and flattened end portions for the purpose set forth.

5. A bow spring for eye glasses comprising

a tubular portion, portions having a transverse section of arcuate shape in outline, and flattened end portions as set forth.

6. A bow spring for eye glasses consisting of a thin strip of metal bent transversely and longitudinally, and having relatively flattened end portions, as described.

7. A bow spring for eye glasses, comprising a tubular portion, semi-tubular portions, and flattened end portions, for the purpose described.

8. A bow spring for eye glasses, consisting of a thin metallic strip, bent transversely and longitudinally, the central portion of said bow spring being formed into a tube and the portions thereof upon opposite sides, respectively, of said tube being curved transversely to form portions of arcuate shape in transverse section, and flattened portions at the opposite ends of said spring, for the purpose described.

9. A bow spring for eye glasses, comprising a tubular portion, a transversely curved portion located on one side of said tubular portion, and another transversely curved portion located on the other side of said tubular portion, the said transversely curved portions being of arcuate shape in transverse section, and flattened end portions at the opposite ends of said spring, substantially as described.

10. A bow spring for eye glasses consisting of a thin strip of suitable material bent transversely and longitudinally, substantially as described.

In testimony that I claim the foregoing as my invention I have hereunto signed my name this 11th day of November, A. D. 1902.

IVAN FOX.

In presence of—

THOS. K. LANCASTER,
L. KLEINFELDER.