(No Model.)

E. B. MEYROWITZ.

BAR SPRING EYEGLASSES.

No. 555,459. Patented Feb. 25, 1896.

Fig. 1.

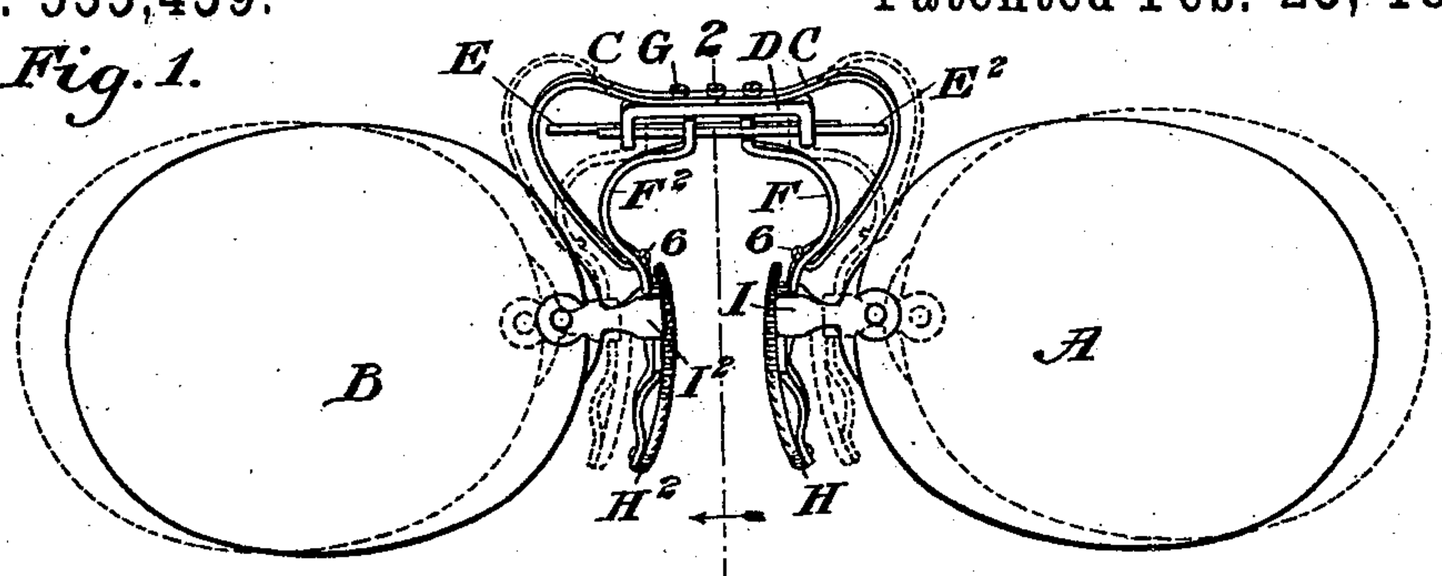


Fig. 2.

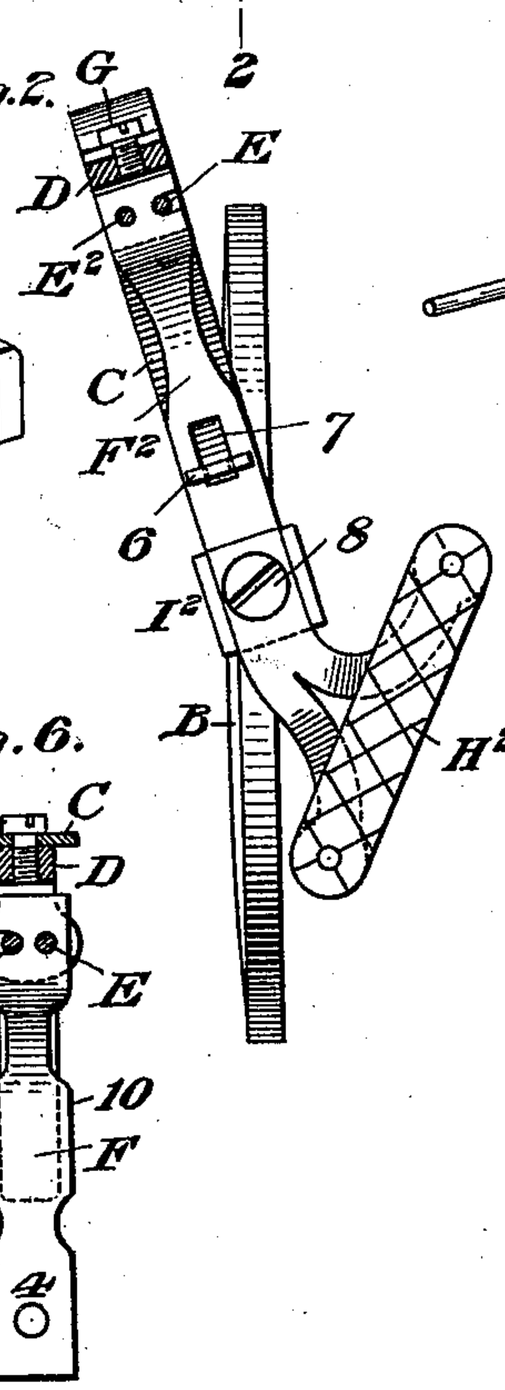


Fig. 3.

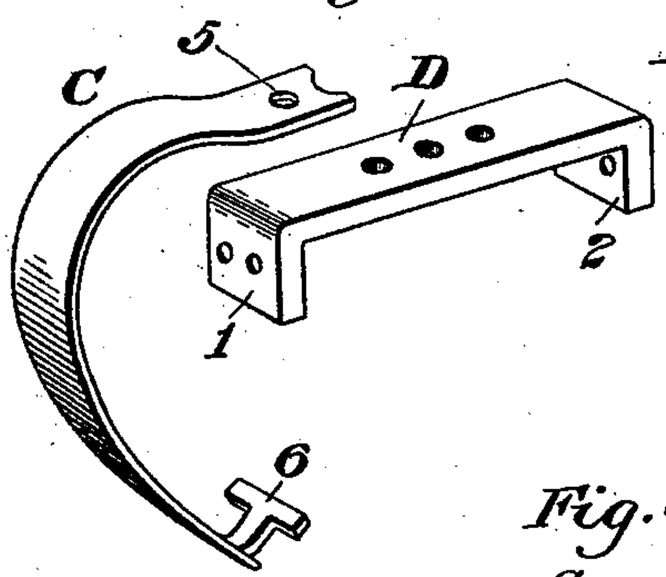


Fig. 4.

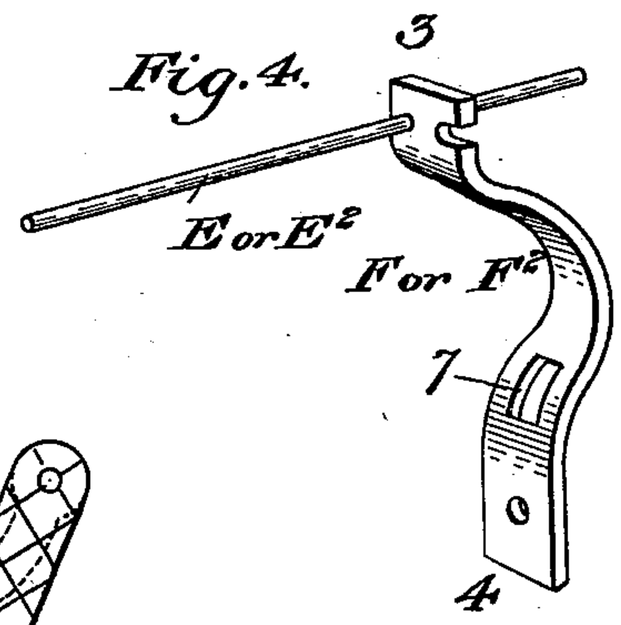


Fig. 5.

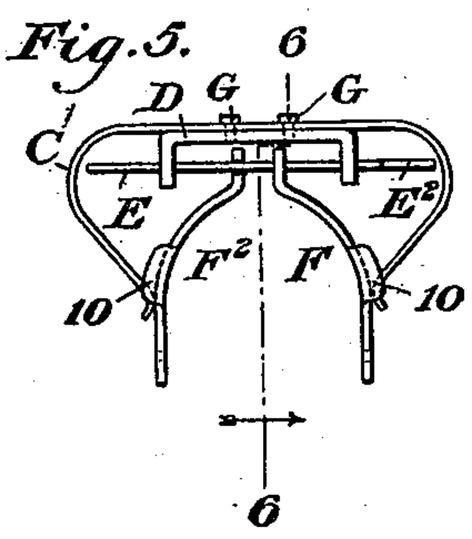


Fig. 6.

Fig. 7.

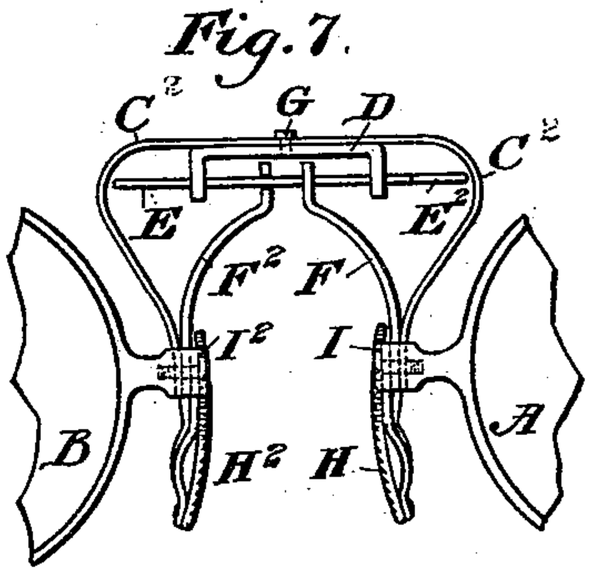


Fig. 8.

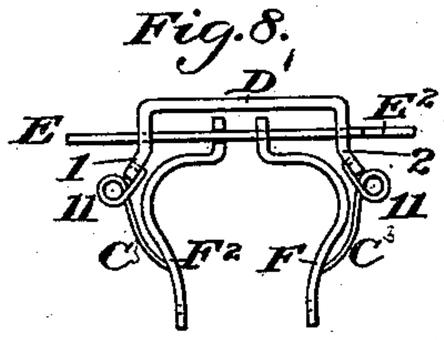


Fig. 9.

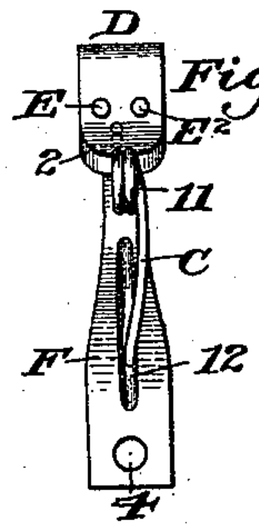


Fig. 10.

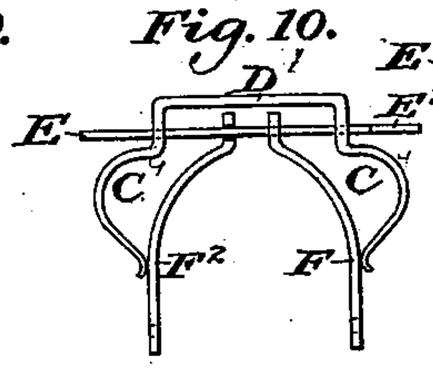
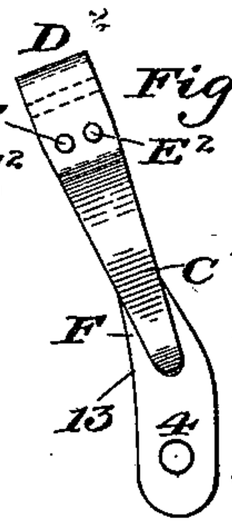


Fig. 11.



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by E. L. Lewis.
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UNITED STATES PATENT OFFICE.

EMIL B. MEYROWITZ, OF RIDGEFIELD, NEW JERSEY, ASSIGNOR TO THE MEYROWITZ MANUFACTURING COMPANY, OF SAME PLACE.

BAR-SPRING EYEGLASSES.

SPECIFICATION forming part of Letters Patent No. 555,459, dated February 25, 1896.

Application filed July 3, 1895. Serial No. 554,833. (No model.)

To all whom it may concern:

Be it known that I, EMIL B. MEYROWITZ, a citizen of the United States of America, and a resident of Ridgefield, in the State of New Jersey, have invented a new and useful Improvement in Bar-Spring Eyeglasses, of which the following is a specification.

The great fault of all bar-springs for eyeglasses so far in the market is that they are not adjustable in the manner familiar to opticians—that is to say, the springs cannot readily be bent by means of pliers like the ordinary springs of eyeglasses; and the main object of the present invention is to provide a bar-spring device which can be adjusted with the same readiness as ordinary springs by a simple bending of the spring or springs proper with pliers, either curling the same tighter or "spreading" and thus relaxing them. To this end springs proper of suitable forms are applied externally to lens-controlling arms.

Another object of the invention is to locate the pressure of such springs proper as low down as practicable, which tends to render the sliding movement smooth by avoiding undue frictional resistance at the rectilinear bar or bars.

Another object is to fasten in and secure against accidental displacement the lower ends of such externally-applied springs proper.

The invention consists in certain novel combinations of parts hereinafter set forth and claimed.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 of the drawings is a front view of bar-spring eyeglasses constructed according to the present invention, with dotted outlines showing the laterally-moving parts as drawn apart for the application of the eyeglasses to the nose or their removal therefrom. Fig. 2 represents an enlarged cross-section on the line 2 2, Fig. 1. Fig. 3 represents perspective views of one of the springs proper, hereinafter described, and the coacting spring-support and bar-guide. Fig. 4 represents a perspective view of either of the lens-controlling arms with the bar to which it is rigidly attached. Fig. 5 is an elevation of a modified bar-spring constituting another species of the invention. Fig. 6 represents an enlarged cross-section on the line 6 6, Fig. 5. Fig. 7 is a face view, and Figs. 8 and 9 are a face view and an enlarged edge view, illustrating additional modifications; and Figs. 10 and 11 are a face view and an enlarged edge view showing a last species of the invention.

Like letters and numbers refer to like parts in all the figures.

A pair of suitable lenses A B, with or without frames, are connected with each other through the medium of a bar-spring device constructed as follows: A pair of suitable springs proper, which together may be substantially similar in shape to an ordinary bow-spring or may be formed by the respective ends of such a spring, as hereinafter described, are adapted to be tightened or relaxed by means of the pliers in like manner, and are rigidly attached to a combined spring-support and bar-guide D. The latter, being preferably yoke-shaped, has depending ends 1 and 2 at its lateral extremities drilled to receive a pair of straight bars E E^2 side by side, and a pair of lens-controlling "arms" F F^2, having upper ends 3 drilled and notched to receive the respective bars E E^2, are fastened rigidly on said bars respectively between said ends 1 and 2 of the spring-support and bar-guide D, as in Figs. 1, 2, and 4, while the springs C, located externally with reference to the arms F F^2, press inwardly against said arms to hold the eyeglasses upon the nose of the wearer, the lower ends or shanks 4, Fig. 4, of said arms F F^2 being rigidly connected to the respective lenses.

In the arrangement represented by Figs. 1 to 4, inclusive, the springs C are attached to the spring-support and bar-guide D by three screws G, two of them inserted through holes 5, Fig. 3, in the adjoining ends of the springs, and the other between such ends. The other extremity of each spring is notched and bent to form T-shaped ends 6, to which longitudinal slots 7 in the arms F F^2 are loosely fitted. These ends 6 are first inserted with the springs substantially at right angles to their working position. The springs are then turned into

place and attached by the screws G, which locks the ends 6 against withdrawal, while they are free to play in the slots.

The improved bar-spring device above described is shown in Figs. 1 and 2 attached to rimless lenses A B, together with a pair of nose-guards H H^2, by means of what are known as "slanting" or "tilting" posts I I^2, constructed in accordance with my specification, forming part of United States Letters Patent No. 469,437, dated February 23, 1892, (claim 2,) for the purpose of tilting the spring away from the brows of the wearer, said lower ends or shanks 4, Fig. 4, of the arms F F^2 being perforated to receive attaching-screws 8, Fig. 2, common to said arms F F^2 and nose-guards H H^2, and the latter, as shown in said Figs. 1 and 2, are of the construction set forth in my specification, forming part of Letters Patent No. 368,226, dated August 16, 1887, Fig. 7.

In the modified arrangement illustrated by Figs. 5 and 6 a bow-spring forming by its respective ends the pair of springs C is attached by a pair of screws G to the top of a spring-support and bar-guide D, which is or may be otherwise like the one above described, the springs having free ends 9 and the arms F F^2 front and rear flanges 10, between which said free ends play without liability to slip forward or backward off the same.

In the modified arrangement illustrated by Fig. 7 a bow-spring forming by its ends a pair of externally-applied springs C, as above, is attached coincidently with the arms F F^2 and nose-guards H H^2 to the posts I I^2 of the lenses A B by the customary screws 8 above referred to. A single spring-attaching screw is shown at G, one being sufficient in this arrangement, and framed lenses are shown at A B by way of illustration.

In the modified arrangement illustrated by Figs. 8 and 9 the externally-applied springs C are formed of suitable wire and are conveniently lengthened by coils 11 at their upper ends, which are securely attached to the ends 1 and 2 of the spring-support and bar-guide D by solder joints, for example. Said ends 1 and 2 being conveniently extended, the springs C are attached thereto below the rectilinear bars E E^2, and the outer sides of the lens-controlling arms F F^2 are provided with longitudinal grooves 12, Fig. 9, to coact with the free ends of the springs C.

In the modified arrangement represented by Figs. 10 and 11 the pair of springs C and the spring-support and bar-guide D are made in one part, of suitable spring metal, and the bar-spring device is rendered tilting by means of suitable bends 13, Fig. 11, in the lens-controlling arms F F^2.

Apart from any specific construction of the improved bar-spring device, the externally-applied springs C are so exposed as to facilitate "adjusting their tension," or, in other words, bending them as required to increase or lessen their pressure by means of pliers. Their ends are located at or near the posts, so as to apply their pressure directly to the nose-guards, and at the same time such pressure, through the medium of the rigid lens-controlling arms F F^2, is substantially lengthwise of the bars E E^2, and undue friction is thus prevented, while in each arrangement the accidental displacement of the free ends of the springs is or may be effectively prevented.

A single bar with suitable appliances, as in said Patent No. 469,437, may in some cases be used to render the movement of the lens-controlling arms rectilinear. The nose-pieces, posts, and other parts extraneous to the bar-spring device may be of any known or improved make suitable to be so used. Such externally-applied springs proper as those shown in Figs. 1 to 4 may be attached below the bars, as in Figs. 9 and 10. Any form of the improved bar-spring device may be rendered "tilting," either in the manner illustrated by Fig. 2 or that illustrated by Fig. 11, and other like additional modifications will suggest themselves to those skilled in the art.

Having thus described the said improvement, I claim as my invention and desire to patent under this specification—

1. A bar-spring device, for eyeglasses, comprising a pair of externally-applied springs, accessible to tension-adjusting pliers, in combination with a pair of lens-controlling arms pressed toward each other by said springs, and means for rendering the movement of said arms rectilinear.

2. The combination, in bar-spring eyeglasses, of a pair of rigid arms coacting with the bar or bars at their upper ends, a combined bar-guide and spring-support, and external springs attached to the latter coacting with said arms below the bar or bars, substantially as hereinbefore specified.

3. The combination, in bar-spring eyeglasses, of a pair of lenses, a pair of downwardly-projecting nose-pieces, a pair of upwardly-projecting arms rigidly connected with said lenses coincidently with said nose-pieces, means for rendering the movement of said arms rectilinear, and externally-applied springs pressing inwardly against said arms and adjustable by means of pliers, substantially as hereinbefore specified.

4. In a bar-spring device for eyeglasses, the combination of a pair of lens-controlling arms having longitudinal slots, rectilinear bars carried by the upper ends of said arms, a spring-support and bar-guide, and externally-applied springs, attached to said spring-support and bar-guide and having T-shaped ends which play in said slots, substantially as hereinbefore specified.

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WM. A. MELIN.