L. F. ADT.

EYEGLASSES.

APPLICATION FILED NOV. 27, 1908.

1,040,096. Patented Oct. 1, 1912.

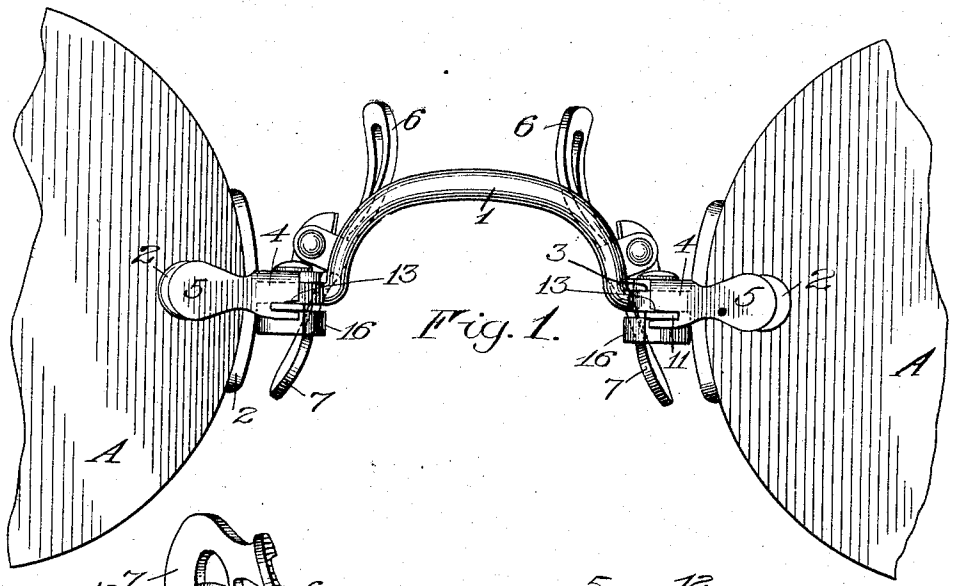

Fig. 1.

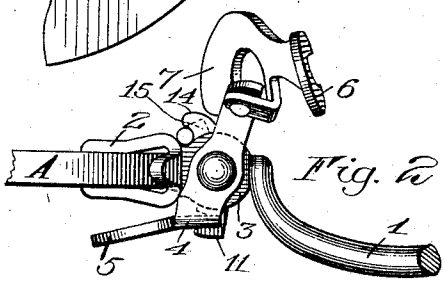

Fig. 2.

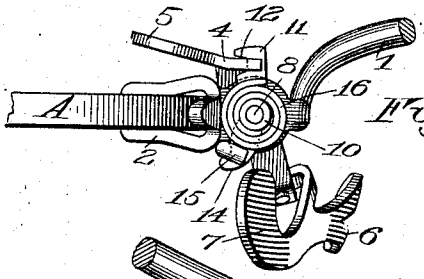

Fig. 3.

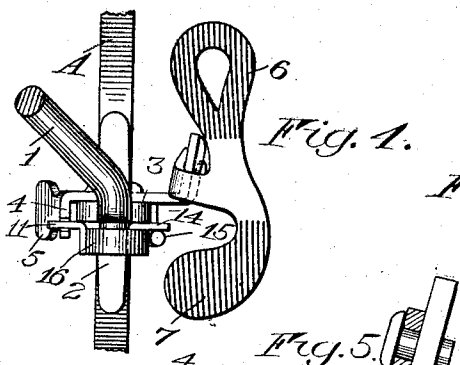

Fig. 4.

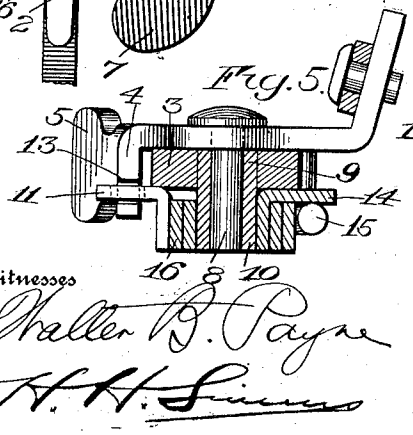

Fig. 5.

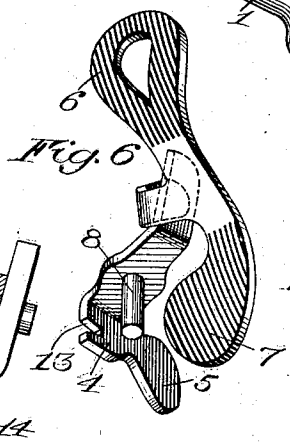

Fig. 6.

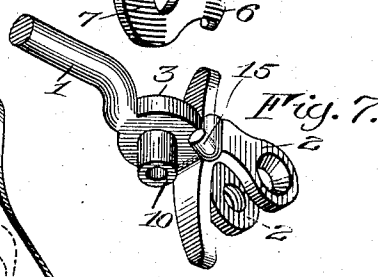

Fig. 7.

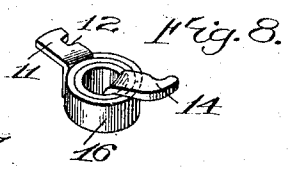

Fig. 8.

Witnesses

Walter B. Payne

H. H. Simms

Inventor

Geo. F. Adt

By Church & Rich

Attorneys

UNITED STATES PATENT OFFICE.

LEO F. ADT, OF ALBANY, NEW YORK.

EYEGLASSES.

1,040,096. Specification of Letters Patent. Patented Oct. 1, 1912.

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To all whom it may concern:

Be it known that I, LEO F. ADT, of Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Eyeglasses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

The present invention relates to eyeglasses of the type in which the guards are mounted to swing on a support by which the lenses are carried, and an object of the invention is to provide a construction and an arrangement of the guard positioning springs that will permit the ready attachment and detachment of the guards swings, will render the springs inconspicuous, and at the same time will reduce the friction on and give additional support to the bearings and pivots of the guards.

To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1 is an enlarged front view of a pair of eyeglasses embodying this invention, portions only of the lenses being shown; Fig. 2 is an enlarged detail top view of one of the guards and portions of the support in proximity thereto; Fig. 3 is an enlarged bottom view of a portion of the mounting; Fig. 4 is a central transverse section; Fig. 5 is a transverse section through the support and one of the springs; Fig. 6 is a perspective view of one of the guards; Fig. 7 is a perspective view of a portion of the support; and Fig. 8 is a perspective view of one of the springs.

In the present embodiment of the invention the lenses A are carried by a support which may comprise a bridging portion 1 connected to lens attaching devices 2 by a pair of horizontal seats 3. The guards may turn on these seats and comprise levers each made from flat stock extending forwardly and rearwardly of the support. The forwardly extending portion of each guard is bent vertically transversely of the stock in front of the support to provide a vertically disposed arm 4, an outwardly extending portion 5 thereon serving as a finger piece by which the guard is operated. In rear of the lenses each lever has secured to it a nose engaging member which may embody upper and lower pads 6 and 7 respectively.

A pivot pin 8 may connect each guard to the support and in order to provide extended bearing surfaces each pin may be carried by a guard and depend therefrom into the support bearing 9. Each guard is positioned by a spring 16 which in this embodiment of the invention is in the form of a coil, arranged on that side of the support opposite the guard, the coil being preferably of volute or flat spiral form and surrounding a pivot pin so that its axis is coincident with the axis of the pin. A projection 10 in the form of a sleeve may be arranged about each pivot pin 8 in order to prevent friction between the pivot pin and the spring during their operations and at the same time to provide a support for the spring when the guard and the support are separated.

To facilitate the removal of the guards, each spring may have an arm 11 detachably interlocked therewith and proceeding forwardly in a horizontal plane from the edge of the stock near the outer end of the spring, a notch 12 being provided in the arm in order to receive a vertical edge on the guard which in this instance is formed with a seat 13 on the portion 4 in advance of the vertical bend. Each spring may be held on the support when its guard is removed and for this purpose another arm 14 may be bent or extended horizontally from the edge of the stock near the inner end of the coil to cooperate with the support, the latter being if desirable provided with a seat or hook 15 to one side of the sleeve or projection 10 and the arm 14 being interlocked with the hook by turning the spring on said sleeve or projection.

In operation the forwardly extending portions of the guards are pressed toward each other to separate their nose engaging portions for the purpose of removing or fitting the eyeglasses. On the release of the finger pieces the springs move the nose engaging portions toward each other. To detach the guards the arms 11 are moved from their seats 13 and the guards moved vertically to separate their bearings from the bearings on the support. The springs remain on the support until rotated to carry their arms out of engagement with the hooks 15.

From the foregoing it will be apparent

that there have been provided eyeglasses in which the bearings of the nose guards are of a maximum length, thus insuring greater stability of the parts. The springs are formed and arranged in a manner to render them inconspicuous while at the same time they give sufficient power for holding the guards against the nose, and the connection of the springs with the guards and with the support obviates the use of separate fastening devices which increase the size of the mounting and require more labor in assembling. The bearings on the guards and the support are open and are retained in cooperative relation solely by the action of the springs so that separate fastening devices for retaining the guards on the support are eliminated. When the guards are removed the springs remain on the support and are not liable to be mislaid but they may be removed if desirable without difficulty.

It will be further noted that an elongated anchorage is provided in the support for the pivot pin 8 of the guard whereby no such looseness can occur as would tend to permit a rocking movement of the lever vertically or in other than its proper horizontal plane aside from the support afforded it by the flat table on which it turns. The seat provided by the flat under surface of the support at the base or attached end of the projection 10 tends to prevent distortion of the flat spiral coil in that one side thereof is disposed toward this seat and its attaching arms are arranged flatwise against it and the coil and it is particularly desirable that a flat spiral coil of the type illustrated have some such support as this. The projection centers it by engagement with its intermediate portions, and yet the spring is easily removed in a straight axial direction by simply disengaging its two, free, radially extending arms from their respective seats without disturbing other parts of the mounting, even the guard which may or may not then be removed, as before pointed out, and on the other hand, by disengaging only the arm 11 from its seat on the guard the latter may be removed without necessarily removing the spring, as it will remain beneath the hooked portion 13 of the projection 9, particularly if it fits closely over the centering projection.

The seat 13 on the arm 4 of the guard lever is so constructed as to constitute both upper and lower abutments for the arm 11 of the spring that coöperates therewith inasmuch as, in the present instance, the said arm may not coöperate securely with the seat on the under side of the support throughout the entire arc of its movement, and the said arm being extended from the outer convolution of the spring, which is the least stable, should preferably have an interlocking connection that can hold it in its true horizontal plane of movement. The other arm 14 that runs from the inner convolution across the coil is also supported by direct engagement with the under side of the bridge against deflection in an upward direction, and, therefore, but one abutment, located beneath it as at 15, is sufficient.

Attention is called to the ease with which this spring may also be applied to the mounting as it is only required that it be slipped over the free end of the projection 10 and then momentarily contracted slightly as it is pushed home against its support as the spreading or radial arms 11 and 14 will then automatically spring into their respective seats on the movable and stationary parts. By connecting these arms by bends flatwise of the stock they are brought as near as possible into the plane of the coil to transmit the action of the latter with greater mechanical economy while the axial proportions of the spring as a whole are materially decreased.

I claim as my invention:

1. In an eyeglass mounting, the combination with a support, a finger piece guard lever pivotally mounted thereon and a detachable spring for positioning the guard located to one side of both of said parts, of a centering projection carried by one of the parts coöperating with the intermediate portion of the spring, and connections between the first mentioned parts and the respective ends of the spring operating to maintain the intermediate portion of the spring in coöperation with the projection.

2. In an eyeglass mounting, the combination with a support, a finger piece guard lever pivotally mounted thereon and a coil spring for positioning the guard located to one side of both of said parts and having its ends acting upon them respectively, of a centering projection extending through the coil of the spring having one end supported by one of the parts and the other free end adapted to permit the removal and replacement of the spring over the same independently of the other parts.

3. In an eyeglass mounting, the combination with a support and a finger piece guard lever arranged to turn thereon, of a centering projection on one of said parts having a free end and an attached end, a spring coiled about the projection adapted to be detached and replaced over the free end thereof by a straight axial movement, and connections between the ends of the spring and said first mentioned parts, respectively, operating to retain the spring on the projection.

4. In an eyeglass mounting, the combination with a support and a finger piece guard lever arranged to turn thereon, of a centering projection on one of said parts having a free end, a spring coiled about the pro-

jection and detachable therefrom over its free end, the ends of the spring being arranged to proceed away from the projection and connections between said spring ends and the first mentioned parts, respectively, operating to retain the spring on the projection.

5. In an eyeglass mounting, the combination with a support and a finger piece guard lever arranged to turn thereon, of a centering projection on one of said parts located to one side of both of them and having a free end and a fixed end, a spring coiled about the projection and detachable therefrom over its free end independently of the other parts, and connections between the spring ends and the first two mentioned parts respectively, held in engagement by the action of the spring.

6. In an eyeglass mounting, the combination with a support and a finger piece guard lever arranged to turn thereon, of a centering projection on one of said parts extending to one side of both of them and having a free end and a supported end, and a flat spiral spring for positioning the guard coiled about the projection and detachable therefrom in an axial direction over its free end independently of the other parts.

7. In an eyeglass mounting, the combination with a support and a finger piece guard lever mounted to turn on one side thereof, of a fixed projection on the support arranged in the axis of the lever and extending away from the opposite side of the support, and a spring for positioning the guard coiled about the projection and removable in an axial direction over the free end thereof independently of the other parts, the two ends of the spring being disposed outwardly laterally of the projection to coöperate with the guard and support respectively at points exteriorly of the coil.

8. In an eyeglass mounting, the combination with a support having a bearing and a guard lever mounted to swing on one side of the support, of a laterally projecting elongated bearing member on the guard, coöperating with that on the support and having a free end arranged to one side of both the guard and support and a coil spring for positioning the guard surrounding the bearing member thereon and removable in an axial direction toward the free end of said bearing member.

9. In an eyeglass mounting, the combination with a support having a bearing and a guard lever mounted to swing on one side of the support, of a laterally projecting elongated bearing member on the guard, coöperating with that on the support and coextensive therewith and having a free end arranged to one side of both the guard and support, and a coil spring for positioning the guard surrounding the bearing member thereon and removable independently of the guard in an axial direction toward the free end of the bearing member on the latter.

10. In an eyeglass mounting, the combination with a support having a tubular member projecting from one side thereof, a guard arranged to turn on the other side of the support and a pivot pin for the guard lever extending through the support and tubular member.

11. In an eyeglass mounting, the combination with a support having a tubular member projecting from one side thereof, a guard lever arranged to turn on the other side of the support, a pivot pin for the guard lever extending through the support and the tubular member and a positioning spring for the guard surrounding the tubular member on the opposite side of the support from the guard.

12. The combination with a support for lenses having a seat on one side thereof, a sleeve projecting from the other side, and a seat surrounding the inner end of the sleeve, of a guard mounted to swing on the first named seat and carrying a pivot pin turning in the sleeve, and a coil spring for positioning the guard, surrounding the sleeve and abutting the seat at the inner end of the latter.

13. The combination with a support for lenses having a seat on the upper surface thereof, a sleeve depending from the under surface of the support and a seat on the under surface surrounding the sleeve, of a nose guard turning in engagement with the seat on the upper surface of the support and having a pivot pin therefor supported in the sleeve, and a flat-spiral coil spring for positioning the guard surrounding the sleeve and abutting the seat at the inner end of said sleeve.

14. The combination with a support for lenses and a nose guard mounted to swing thereon, of a pivot pin carried by one of said parts, a sleeve surrounding said pivot pin, secured at one end to the other of the first two named parts to project therefrom a seat encircling the secured end of the sleeve, and a flat-spiral coil spring surrounding the latter and abutting the seat at the end thereof.

15. The combination with a support for lenses, of a sleeve secured to the support to project therefrom, a seat at the secured end of the sleeve, a nose guard mounted to swing on the support, a pivot pin extending through the sleeve and carried by the guard, and a flat-spiral coil spring surrounding the sleeve and abutting the seat at the secured end thereof.

16. The combination with a support for lenses and a guard mounted to swing thereon, of a flat-spiral coil spring arranged with its axis coincident with the axis of the guard, made from flat stock and having arms bent

near each end transversely of the flat faces of the stock to proceed from the side edges of the coil, one of said arms being detachably connected to the support and the other being detachably secured to the guard.

17. In an eyeglass mounting, the combination with a support and a finger piece guard lever pivoted to turn thereon, each of said parts being provided with a spring engaging portion, of a coil spring for positioning the guard separate from both the latter and the support, wound in a flat spiral about the axis of the guard and adapted to be detached or replaced by a straight axial movement, both ends of said spring being disposed exteriorly of the circumference of the coil to take attachment to the engaging portions of the guard and support respectively by virtue of their own elasticity.

18. In an eyeglass mounting, the combination with a support for the lenses and a guard lever having a pivotal bearing thereon, of a coil spring for positioning the guard removable independently of both the latter and the support wound in a flat spiral about the axis thereof, the outer end being arranged to act upon one of said parts and the inner end being provided with an arm proceeding from an inner convolution and extended across an outer convolution of the spiral and acting against the other part.

19. The combination with a support and a guard, one of which carries a pin projecting into a bearing in the other from one side of the latter, of a coil spring having its axis coincident with the axis of the pivot pin, carried by one of said parts and having one end detachably interlocked with the other part to retain the pivot and bearing in engagement, the spring being located on the opposite side of the part into which the pivot pin projects.

20. The combination with a support for lenses, of a nose guard mounted on one side of the support and carrying a pivot pin journaled in the support and detachable from the latter, and a coil spring for positioning the guard surrounding the pin on the side of the support opposite that side on which the guard is mounted.

21. The combination with a support for lenses having a projection thereon, and a seat at one side of the projection, of a guard mounted to swing on the support and detachable therefrom, and a coil spring for positioning the guard having an arm cooperating with the seat on the support when the spring is rotated on the projection and an arm detachably secured to the guard to retain the latter on the support.

22. The combination with a support for lenses having a projection depending therefrom and a seat at one side of the projection, of a guard mounted to swing on the top of the support and detachable therefrom, and a coil spring for positioning the guard, detachably connected to the latter, having an arm extending therefrom and rotatable on the projection as a pivotal center to move the arm to and from the seat.

23. The combination with a support for lenses, of a guard mounted thereon to swing substantially in a horizontal plane on one side of the support and having a forwardly extending arm bent to produce a vertically disposed portion in front of the support, and a spring for positioning the guard embodying a forwardly extending horizontal arm detachably coöperating with the said vertically disposed portion of the guard.

24. The combination with a support for lenses, of a guard mounted to swing substantially in a horizontal plane on one side of the support and having a forwardly extending arm bent to produce a vertically disposed portion in front of the support, said vertically extending portion being provided with a seat in its inner vertical side, and a spring for positioning the guard embodying a forwardly extending horizontal arm engaging in the seat.

25. The combination with a support for lenses having a sleeve depending therefrom and a hook at its rear, of a guard embodying a lever operating on the upper surface of the support and made from flat stock bent vertically transversely of the flat faces and extending outwardly in front of the support, the inner vertical edge of the vertically extending portion being provided with a seat, and a flat-spiral coil spring made from flat stock and having two arms one bent forwardly from the edge of the stock near one end of the coil to coöperate with the seat on the guard and the other bent rearwardly from an edge of the stock near the other end of the coil to coöperate with the hook of the support.

26. The combination with a support for the lenses and a finger piece guard lever mounted thereon to swing substantially in a horizontal plane, of a spring for positioning the guard coiled about the axis thereof and having one end extended outwardly from the coil, and a free arm on the lever extending in a vertical direction and detachably engaging the spring arm.

27. The combination with a support for the lenses and a finger piece guard lever pivotally mounted thereon to swing in a substantially horizontal plane, of a flat spiral spring for positioning the guard coiled about the axis thereof and having one end extended outwardly from the coil, and a free arm on the lever extending in a vertical direction and provided with a recess or seat adapted to detachably receive the spring arm.

28. The combination with a support for the lenses and a finger piece guard lever

pivotally mounted thereon to turn in a substantially horizontal plane, of a spring for positioning the guard embodying a free arm flexed in a horizontal plane, and a free arm on the lever extending in a substantially vertical direction and detachably engaging the spring arm.

29. The combination with a support for the lenses and a finger piece guard lever pivotally mounted thereon to turn in a substantially horizontal plane, of a spring for positioning the guard embodying a free arm flexed in a horizontal plane, and a free arm on the lever extending in a vertical direction and detachably engaging its free arm, the guard arm being provided with an abutment behind which the spring arm is seated to normally prevent its disengagement from the guard in a direction transverse to the plane of movement of the latter.

LEO F. ADT.

Witnesses:
EDWARD MURPHY, 2d,
GEORGE B. HARRISON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."