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Patented Sept. 30, 1902.

W. S. ESSICK.
SPECTACLES OR EYEGLASSES.

(Application filed Feb. 13, 1901.)

(No Model.)

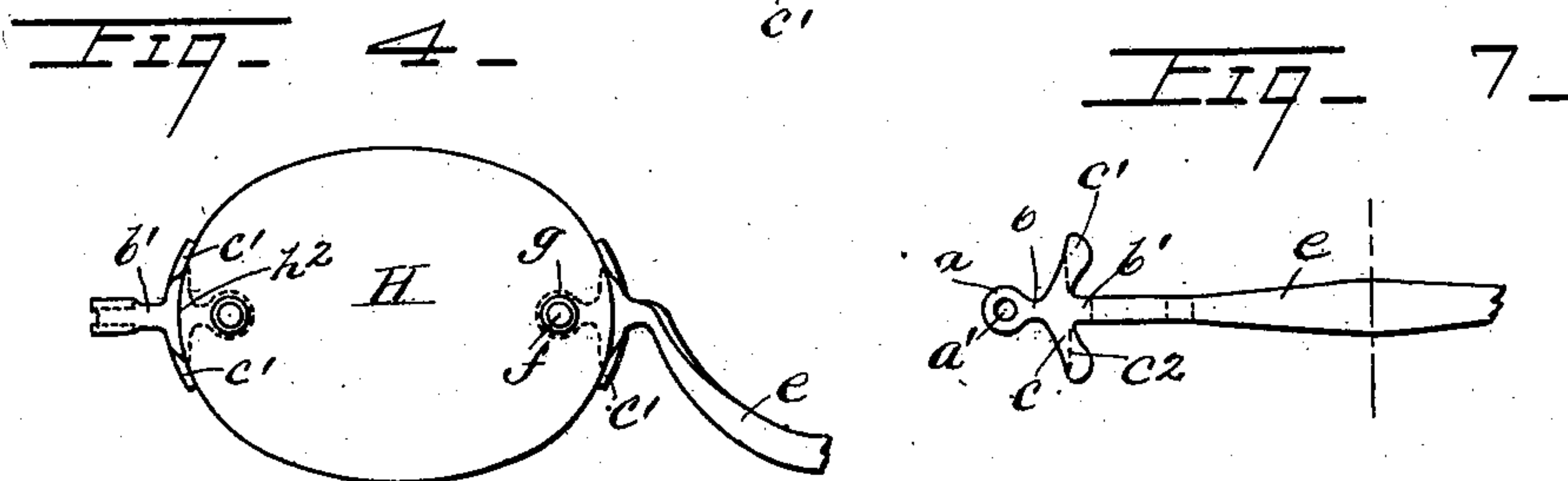
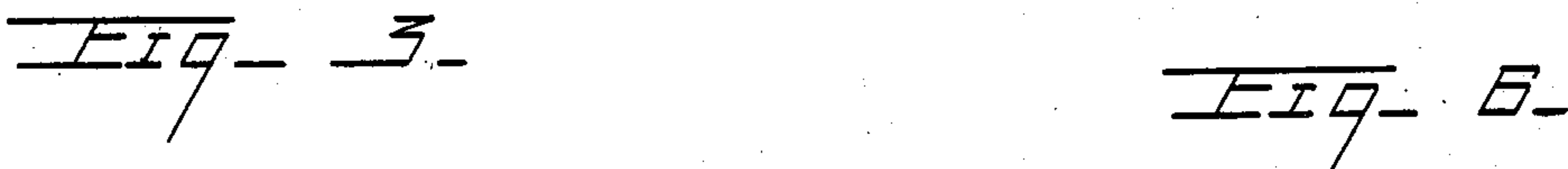
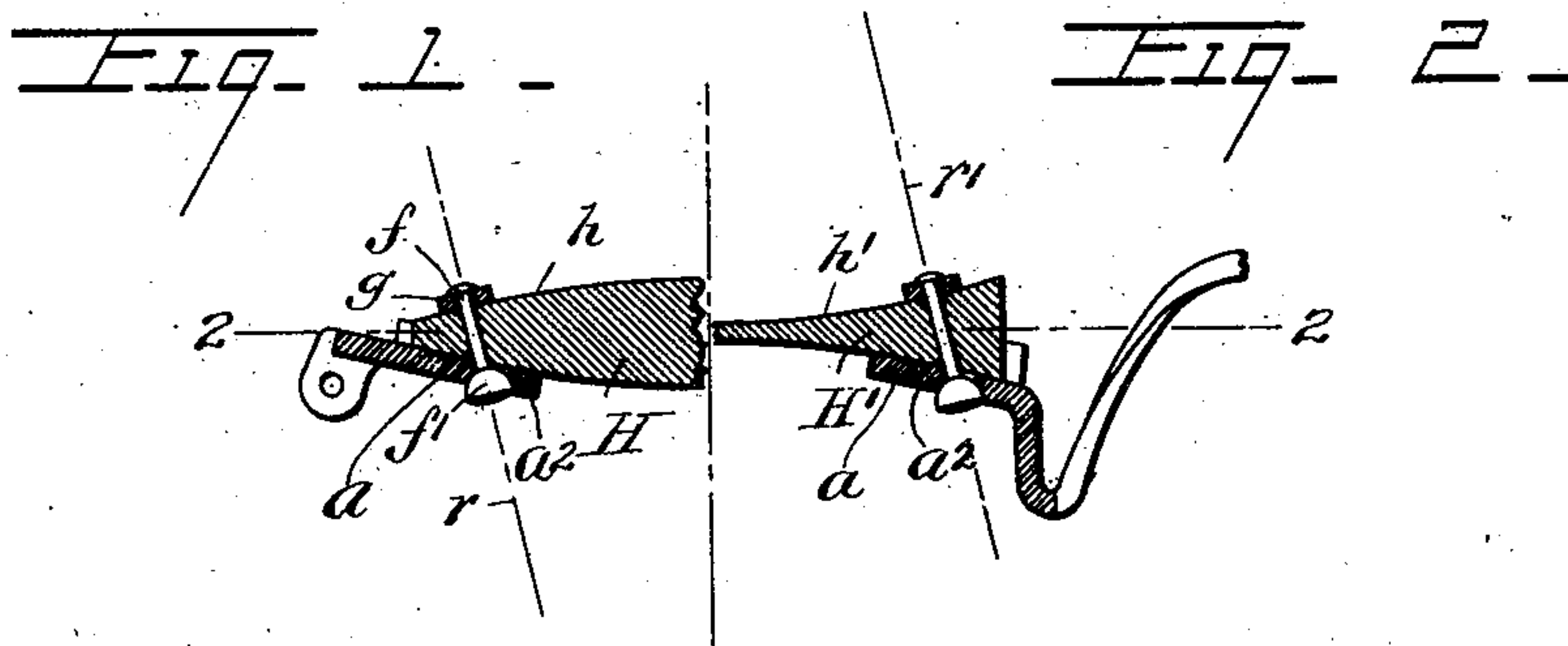


FIG. 5 -

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SPECTACLES OR EYEGLASSES.

SPECIFICATION forming part of Letters Patent No. 709,891, dated September 30, 1902.

Application filed February 13, 1901. Serial No. 47,091. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. ESSICK, a citizen of the United States of America, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Spectacles or Eyeglasses, of which the following is a specification.

My invention relates to fittings for frameless spectacles and eyeglasses, and more particularly to the "single-ear" type of fitting described and claimed in Patent No. 570,625, issued to me jointly with C. S. Rees November 3, 1896.

My present improvements apply particularly to sheet-metal fittings; and my main objects are to simplify and cheapen both the construction and attachment of the fittings and to prevent loosening of the same after being clamped to the lens. These frameless fittings comprise, commonly, a clamping-ear to which the lens is secured by means of a bolt passing through both, a stop to prevent pivotal movement of the fitting on said bolt, and an extension forming, for instance, a temple connection or a nosepiece. In order to insure a satisfactory connection of the fitting to the lens, I provide for more effectively preventing pivotal movement of the fitting on the clamping-bolt and also for insuring a more satisfactory clamping effect by the tightening up on the bolt. The first object mentioned I attain by forming the fitting with separated stops adapted to bear against the edge of the attached lens, one on each side of the stem of the fitting, thus avoiding a central contact with the edge of the lens, and, further, by forming said stops with a stiffening rib or flange which will prevent yielding or outward movement of a stop such as permits the pivotal movement of the fitting. The second object mentioned I attain by arranging the axis of the clamping-bolt in a line radial to the curvature of one face of the lens, thus insuring a square seating of the washer or nut on said curved face.

The invention is fully described in connection with the drawings and is particularly pointed out in the claims.

Figure 1 is a sectional view of a portion of an exaggerated double-convex lens with my fitting clamped thereto, as stated; and Fig.

2 is a similar view of a double-concave lens and attached fitting, the latter being provided, as indicated, with a nosepiece extension and the former with a temple connection-jaw. Figs. 3 and 4 are respectively rear and front views of a lens having both fittings secured thereto, and Fig. 5 is an edge view of the temple end thereof. Fig. 3^a is an enlarged cross-sectional view of one of the stops on the line xx of Fig. 3, clearly showing the stiffening-rib thereof. Fig. 6 is a separate view of the stamped temple-blank before bending, and Fig. 7 is a similar partial view of the nosepiece-blank.

Referring to Figs. 6 and 7, which represent the sheet-metal blanks or punchings from which the temple-fitting and nosepiece-fitting, respectively, are formed, a indicates the single clamping-ear, intended to contact with one face of the lens and provided with a perforation a' for the clamping bolt or rivet; b , the stem connecting said ear with the widened edge-engaging portion c of the fitting, and b' an extension in line with the stem b , said stem extension b' terminating either in integrally-formed temple-ears $d d$, Fig. 6, designed to be bent at right angles on the dotted lines d' to form a jaw for the pivoting of the temple of a spectacle, or in a bridge-piece e , Fig. 7, designed to be suitably bent to conform to the nose. $c' c'$ are wings on the widened portion c of the fitting, designed to be bent at about right angles to the plane of the blank on the dotted lines c^2 to form separated stops against the edge of the lens, one on each side of the stem extension b' , as indicated most clearly in Fig. 5, where it will be noticed that the portion h^2 of the edge of the lens adjacent to the central line of the fitting is free of contact with the latter. The purpose of this separated arrangement of the stops c' is to more effectively prevent any turning of the fitting upon the pivot a' , and it is easily provided in my fitting by simply continuing the stem extensions b' substantially in the same plane as the clamping-ear and its stem b and disconnecting the wings $c' c'$ from said stem extension b' beyond the line of bend c^2 , so that they may be independently bent to form side stops on the fitting, as shown, the edgewise metal back of said line of bend forming stiffening-ribs c^3 , which give rigidity and effect-

ively prevent any pivotal movement on the clamping-bolt due to yielding of the stops.

In order to further insure a firm attachment of the fitting to the lens and to facilitate the clamping operation, I have found it necessary to depart from the usual manner of drilling the lens for the passage of the clamping-bolt. Heretofore these perforations have been drilled, as is most natural and convenient, substantially at right angles to the neutral plane of the lens 2 2, Figs. 1 and 2, regardless of the curvature of the faces. I have found, however, that in securing my single ear-fittings to the lenses by means of a clamping-bolt f by far the most satisfactory results are secured when the washer or nut g naturally seats itself uniformly around the lens perforation, as is now the case on plane lenses only, the unequal pressures due to uneven seating of the washer on a lens-face of considerable curvature tending to produce fractures or ultimate loosening of the fitting. In my improved construction I therefore provide for securing in all cases a practically uniform bearing and pressure of the washer on the lens-face h or h' , Figs. 1 and 2, by drilling the bolt-hole in the lens at right angles to a plane tangent to the center of said hole on the washer-face of the lens or, in other words, radial to the curvature of said lens-face, as indicated by the lines r and r' , respectively. This insures a square seating of the washer g on the lens-face h or h' , as the case may be, thus necessitating a somewhat-larger range of adjustment of the ball-head f' of the bolt f in the corresponding socket or ball-seat a^2 of the clamping-ear a of the fitting than is required in the similar ball-and-socket seat shown in my prior patent referred to. The end of bolt f may be threaded for a nut, as usual; but I find it perfectly practicable and more economical and satisfactory in my improved construction to dispense with screw-threading and merely rivet the slightly-projecting end of the bolt over the washer g , thus drawing the fitting and washer into close and rigid connection with the lens.

By means of the improvements thus fully described in connection with the preferred construction shown I am able to produce at low cost frameless spectacles or eyeglasses of neat appearance in which the fittings are firmly attached to the lens with minimum risk of breakage or loosening.

What I claim is—

1. In spectacles or eyeglasses a frameless lens and a fitting thereto having one clamping-ear only to contact with one face of the lens, registering perforations in said lens and clamping-ear, and a clamping bolt or rivet

passing therethrough and having its axis radial to the curvature on the opposite face of the lens.

2. In spectacles or eyeglasses a frameless lens and a fitting thereto having one clamping-ear only to contact with one face of the lens, registering perforations in said lens and clamping-ear, and a clamping bolt or rivet passing therethrough and having its axis radial to the curvature on the opposite face of the lens said clamping bolt or rivet having a head adjustably seated in said clamping-ear and a washer or nut thereon squarely seated against the opposite face of the lens.

3. An integrally-formed sheet-metal fitting for frameless spectacle-lenses, comprising a lens-attaching ear, a plate extension thereof beyond the edge of the lens lying in the plane of said ear, and opposite wings on said extension-plate having their outer ends turned approximately at right angles to said plane to contact flatwise with the periphery of the lens and form separated stops against the latter substantially as set forth.

4. An integrally-formed sheet-metal fitting for frameless spectacle-lenses, comprising a lens-attaching ear, a plate extension thereof beyond the edge of the lens lying in the plane of said ear, and opposite wings on said extension-plate having their outer ends turned approximately at right angles to said plane to contact flatwise with the periphery of the lens and form separated stops against the latter, the inner portions of said wings extending within the periphery of the lens and serving to rigidly brace said stops substantially as set forth.

5. A sheet-metal blank for a spectacle or eyeglass lens-fitting, comprising a lens-attaching ear, a stem extension therefrom terminating in temple joint-ears, and intermediate wings on opposite sides of said stem extension adapted to form stops against the edge of the lens, all lying normally in the same plane, substantially as set forth.

6. A sheet-metal blank for a spectacle or eyeglass lens, comprising a lens-attaching ear, a stem extension therefrom, and opposite wings on said stem extension, all lying normally in the same plane, the ends of said wings being extended lengthwise of the stem beyond their connection to the latter substantially as and for the purpose set forth.

Signed at Reading, Pennsylvania, this 11th day of February, 1901.

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Witnesses:

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