

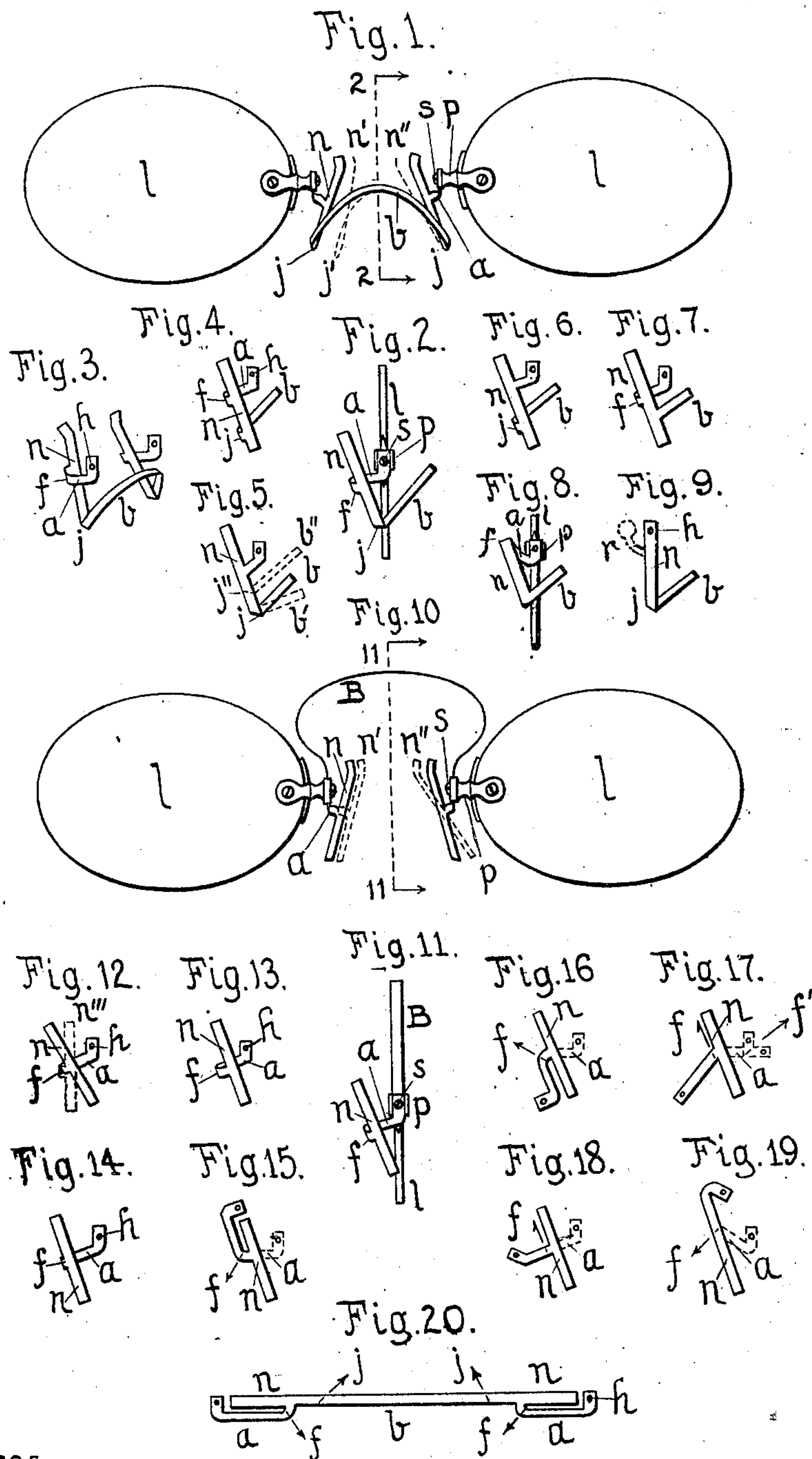
No. 674,974.

Patented May 28, 1901.

D. H. LUDLOW.
EYEGASSES OR SPECTACLES.

(Application filed Dec. 9, 1899.)

(No Model.)



Witnesses:

Edw. H. F. Ludlow
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UNITED STATES PATENT OFFICE.

DAVID HUNT LUDLOW, OF EASTON, PENNSYLVANIA.

EYEGLASSES OR SPECTACLES.

SPECIFICATION forming part of Letters Patent No. 674,974, dated May 28, 1901.

Application filed December 9, 1899. Serial No. 739,784. (No model.)

To all whom it may concern:

Be it known that I, DAVID HUNT LUDLOW, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Eyeglasses or Spectacles, of which the following is a specification.

The objects of my invention are to secure in the nose-rests greater adjustability, increased effectiveness of clutch, and more perfect distribution of pressure than is possible with the forms heretofore used, together with simplicity, neatness of appearance, and economy of production, and also, if desired, to directly connect the nose-rests by a bridge so constructed as to insure proper bearing of the nose-rests and at the same time obtain from it additional support and firmness, together with adjustability, economy of material, more advantageous resilience, and exceptional simplicity and neatness.

Devices embodying my improvements are represented in the accompanying drawings and hereinafter described and claimed.

In the drawings, Figure 1 is a front elevational view of a pair of eyeglasses embodying my improvements, which are also applicable to spectacles. Fig. 2 is a sectional view of the glasses represented in Fig. 1 in the plane of the dotted line 2 2 of said figure, sight being taken in the direction of the arrows applied to said line. Fig. 3 is a perspective view of a typical embodiment of my improvements removed from the clamping-posts. Figs. 4, 5, 6, 7, 8, and 9 are fragmentary sectional views of various types more or less embodying my invention removed from the clamping-posts except in Fig. 8, sight being taken as in Fig. 2. Fig. 10 is a front elevational view of a typical embodiment of my improved nose-rests without the directly-connecting bridge shown in Fig. 1. Fig. 11 is a sectional view of the same at the dotted line 11 11 in the direction of the applied arrows. Figs. 12, 13, and 14 are similar views of the nose-rest removed from the clamping-post in various phases of adjustment. Figs. 15, 16, 17, 18, and 19 show typical patterns for the nose-rest in the flat. Fig. 20 is a typical pattern in the flat for a mounting similar to that shown in Fig. 3.

Similar letters of reference indicate corresponding parts.

In the drawings, *l* represents the lenses, and *p* clamping-posts, which are typical of any convenient means of attachment.

n represents the nose-rests, secured to the clamping-posts by the screws *s* through the holes *h*, either directly, as in Fig. 9, or by means of an arm *a*, as in the other figures. The arm *a* preferably rises at any convenient point from the posterior edge of the nose-rest *n*, with which it is continuous, through the fold *f*, though, if desired, they may be made of separate pieces attached to each other by any convenient means. A quarter-turn fold *f'*, as in Fig. 17, may also be used, if desired, to turn up the end of the arm for lodgment in the clamping-post *p*.

B in Fig. 10 is the ordinary spring connecting the clamping-posts and is typical of any spring or bridge directly connecting them without the intervention of the nose-rests or their arms.

b is typical of any bridge or spring resting on the nose and directly connecting the nose-rests without the intervention of the arms *a* and indirectly connecting the lenses through the intervention of the nose-rests. It may join the nose-rests at any point of the latter, as shown typically in Figs. 4, 6, and 7, and there may be a fold *j* at their junction, as in Figs. 1, 2, 3, 4, 5, and 6, or not, as in Figs. 7 and 8. It may be made integral with the nose-rests or in separate pieces properly attached. Preferably, however, it is made integral with the nose-rests, each of which it joins at its lower end by a fold *j*, as shown in Figs. 1, 2, 3, 5, and 9. A suitable pattern is shown in Fig. 20 in the flat, the location and axis of each fold being indicated by an arrow. By manipulating the fold *j* (see Fig. 5) the bridge *b* may easily be tilted to a lower position *b'*, or vice versa, and by changing the position of the fold to a point *j''* the bridge *b''* is readily made longer at the expense of the nose-rest, and vice versa. Bending the bridge *b* to conform to the surface of the nose, as at *j'* in Fig. 1, *ipso facto* brings the lower end of the nose-rest *n* (now at *n'*) into proper relation with the side of the nose. The upper end of the nose-rest may be adjusted farther in, as at *n''*, by slightly opening the fold *j*, and vice

versa. Thus the bridge b and the nose-rests n are capable of complete and ready adjustment with respect to each other and to the nose.

5 The relative positions of nose-rest and lens are controlled by the arm a . Simple manipulation of the fold f , as indicated in Fig. 12, brings the nose-rest into a position more nearly parallel to the plane of the lens, as at
10 n''' , or vice versa. Changing the position of the bend f along the arm a approximates the nose-rest to the plane of the lens, as in Fig. 13, or removes it therefrom, as in Fig. 14. Increasing or decreasing the radius of curvature of the fold f or manipulation of the rest
15 of the arm a increases or decreases the pupillary distance, as indicated in Fig. 10 at n' , while a simple twist of the arm a serves to adjust the axis of the lens to the horizontal,
20 as indicated in Fig. 10 at n'' . The remaining manipulations, such as those for conforming the nose-rests smoothly to the nose, are too simple and manifest to require description, though it should be noted that the fold f' in
25 Fig. 17 (which is typical of such a fold in any of the other patterns) is of value in adjusting the lenses upward or downward and that the use of either of the patterns shown in Figs. 15 and 16 affords adjustment upward and
30 downward by moving the position of the fold f along the arm.

In the preferred construction (shown in Figs. 1, 2, and 3) the bridge b , adjusted, preferably, to rest on the firm bony portion of the
35 bridge of the nose, steadies the glasses, bears a due proportion of their weight, (thus relieving the nose-rests of a part of their burden very agreeably to the wearer,) and prevents the glasses from tilting forward around
40 the nose-rests as a center. As the material of the bridge b passes toward the nose at the junctional fold j , the bridge itself exerts little or no pressure on the nose in that vicinity, insuring the efficiency of the nose-rest to its
45 extreme lowest limit and counteracting any tendency of the glasses to slip forward at the bottom.

The bridge b is preferably, though not necessarily, of resilient material, and while it
50 affords the utmost economy of material there is abundant length for satisfactory resilience, because the elasticity of the nose-rests is also utilized and because it is all used to the best advantage. When the glasses are drawn
55 apart in the direction of their horizontal axis, the sheer resilience of the bridge b readily permits the slight motion necessary to free the lower ends of the nose-rests from the nose, while its torsional resilience, added to the sheer
60 resilience of the nose-rests and junctional folds j , gives greater motion to the upper ends of the nose-rests where it is wanted to free them from the softer tissues into which they press when the glasses are in position on the nose.

65 The application of the resilience of the bridge directly to the nose-rests instead of

indirectly through their arms a permits the use of lighter material and contributes both to the economy of material and to the neatness of appearance, in addition to making possible the advantages before mentioned.

If desired, the nose-rests may be used with the ordinary spring B, as in Figs. 10 and 11, or other convenient form of bridge not directly connecting the nose-rests. They are
75 made, preferably, of thin moderately elastic material, though they may be rigid, if preferred. If pliable and elastic, they distribute the pressure more evenly and enhance the wearer's comfort. Preferably each nose-rest
80 is carried by an arm arising from some point along its posterior edge. It may rise from the top end, which by reason of the tilt of the nose-rest becomes a part of the posterior edge, as shown in Figs. 8 and 19, or it may come
85 off at any lower point, but preferably in the middle third of the posterior edge. It is then carried forward to be secured to the clamping-post, thus forming the bend or fold f , which is characteristic and which may be more or less
90 open, according to the requirements of the particular case. This construction (shown in Figs. 10 to 19, inclusive) secures for the nose-rest a free front edge and lower end, making it
95 more efficient than it would otherwise be and doing away with all need of special surfacing or reinforcement with celluloid or other material, though this may be used, if desired. When the ordinary spring B is used, as in
100 Fig. 10, the fold f adds to the resilience, favorably influences the direction of its application, especially to the front edge of the nose-rest, and renders more available the torsional elasticity of the arm a , thus tending
105 to equalize the pressure at the two ends of the nose-rest n . It is also solely by virtue of the fold f that I am able to adjust the nose-rest forward, Fig. 13, or backward, Fig. 14, and tilt it to any angle with the plane of the glasses, Fig. 12.

The pattern in Fig. 20 is made by connecting two nose-rest patterns of the type shown in Fig. 15 by a straight bridge-piece b . The types shown in Figs. 16, 17, 18, and 19 may be similarly treated, as may be any other suitable form of nose-rest, and the bridge-piece
115 may be variously shaped. Patterns for the types shown in Figs. 4 to 9, inclusive, are thus readily formed. No one of the types in Figs. 5, 6, 7, and 8 embodies all of my improvements, and the advantages claimed for them are correspondingly less. The type in Fig. 9 may be improved by adding a second nose-rest r , as indicated. That I do not claim, but only its combination with the bridge-piece
120 b , and the same is true of the nose-rest (separately) shown in Figs. 5 and 6, nor do I claim the fold f' . (Shown in Fig. 17.)

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

1. The nose-rest n , provided with an arm

which leaves said nose-rest at a point posterior to its anterior edge and runs outward away from the plane of said nose-rest and then forward forming a backwardly convex fold *f*, substantially as described.

2. In combination, a pair of lenses, clamping-posts attached thereto, nose-rests, each of which is attached to its respective clamping-post by a connecting-arm which leaves said nose-rest from its upper end at a point posterior to its anterior edge and runs outward away from the plane of said nose-rest and then forward forming a backwardly convex fold *f*, and a bridge adapted to rest upon the nose of the wearer and connecting said nose-rest at their lower ends and connecting the clamping-posts indirectly through the medium of said nose-rest and arms, substantially as set forth.

3. In combination, a pair of lenses, clamping-posts attached thereto, nose-rests, each of which is attached to its respective clamping-post by an arm which leaves said nose-rest at a point posterior to its anterior edge and runs outward away from the plane of said nose-rest and then forward forming a backwardly convex fold *f*, and a bridge adapted to rest upon the nose of the wearer and connecting said nose-rest directly and the clamping-posts in-

directly through the medium of said nose-rests and arms, substantially as set forth.

4. In combination, a pair of lenses, clamping-posts attached thereto, nose-rests, each of which is attached to its respective clamping-post, and a bridge of which the middle portion is adapted to rest upon the nose of the wearer and of which each extremity, after rising from its respective nose-rest, runs outward away from the subjacent surface of the nose and then upward and forward to become continuous with the middle portion aforesaid, substantially as set forth.

5. In combination, a pair of lenses, clamping-posts attached thereto, nose-rests, each of which is attached to its respective clamping-post by an arm which leaves said nose-rest at a point posterior to its anterior edge and runs outward away from the plane of said nose-rest and then forward forming a backwardly convex fold *f*, and a bridge rising by an outward fold from each of said nose-rests and adapted to rest upon the nose of the wearer, substantially as set forth.

DAVID HUNT LUDLOW.

Witnesses:

ELLEN H. F. LUDLOW,
REUBEN KOLB.

It is hereby certified that in Letters Patent No. 674,974, granted May 28, 1901, upon the application of David Hunt Ludlow, of Easton, Pennsylvania, for an improvement in "Eyeglasses or Spectacles," errors appear in the printed specification requiring correction, as follows: In line 62, page 1, the word "rises" should read *arises*; in line 82, page 2, the word "rise" should read *arise*; in lines 37 and 50, page 3, the word "rising" should read *arising*; and in lines 16, 18, and 29, page 3, the word "nose-rest" should read *nose-rests*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 18th day of June, A. D., 1901.

[SEAL.]

F. L. CAMPBELL,
Assistant Secretary of the Interior.

Countersigned:

F. I. ALLEN,
Commissioner of Patents.