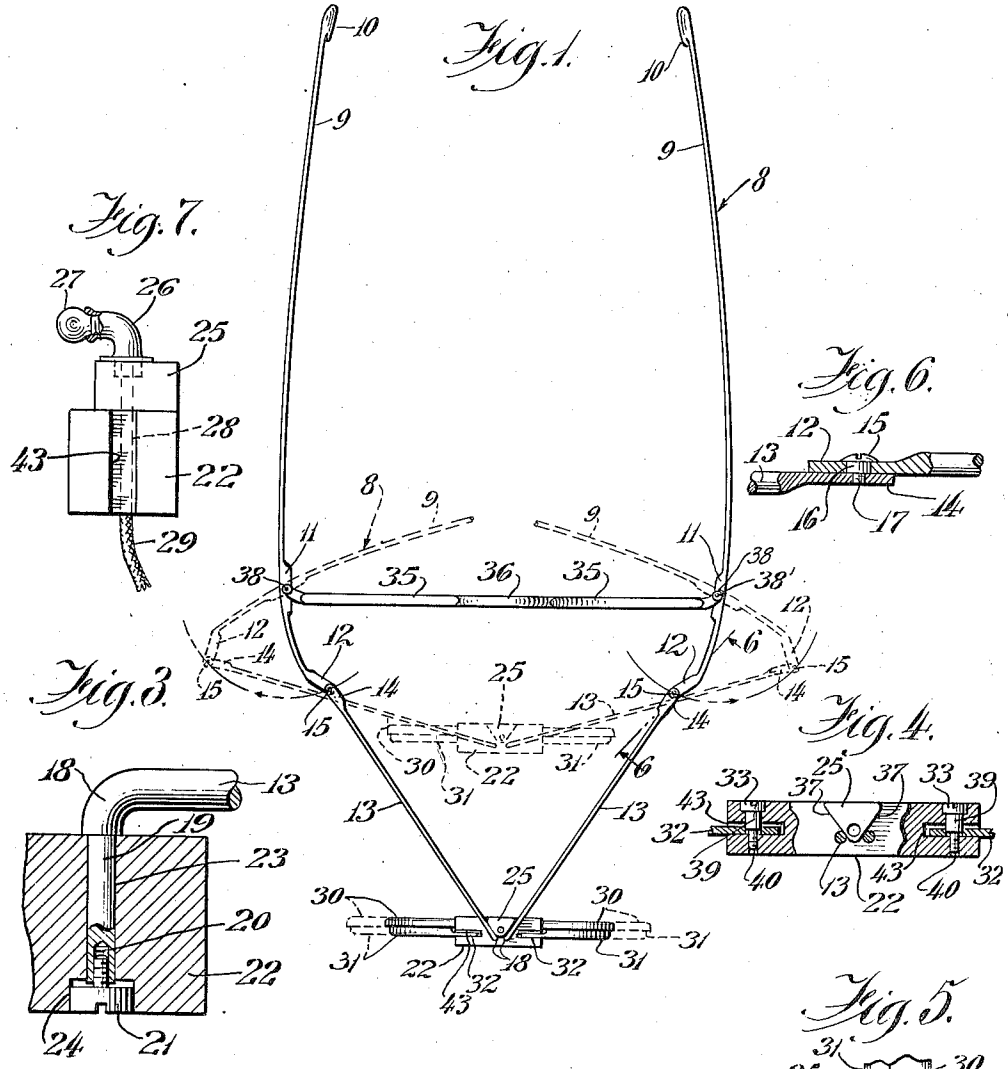
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BINOCULAR

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BINOCULAR

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5 Claims. (Cl. 88—41)

This invention relates to magnifying devices especially the type that can be worn similarly to the manner in which a pair of spectacles are worn.

One object of the invention is to provide a magnifying device which has no structure of any kind between the focal centers of the lenses thus rendering ideal binocular vision.

Another object of the invention is to provide such a device which is collapsible, and which may be collapsed so that it may be conveniently carried about when not in use.

Another object of the invention is the provision of lens holders mounted so that they can be rotated to the radial position most suitable for the person using or wearing my invention.

A further object of the invention is the provision of a device which is neat, simple, efficient, durable, useful, and practical, and which is also economical to manufacture in quantity production.

Other features and advantages residing in the invention at bar, will become apparent from reference to the accompanying drawing and the ensuing description, wherein like numerals are used to designate like parts and in which:

Fig. 1 is a top plan view of my invention in open form ready to be placed upon the head of an observer.

Fig. 2 is a front plan view of my invention.

Fig. 3 is a cross-sectional view taken on the line 3—3 of Figure 2.

Fig. 4 is a cross-sectional view taken on the line 4—4 of Figure 2.

Fig. 5 is a cross-sectional view taken on the line 5—5 of Figure 2.

Fig. 6 is a cross-sectional view of the method for securing the member 9 to the member 13.

Fig. 7 is a side view of the lens holder showing the manner in which illumination means may be associated therewith.

Referring to the drawing it will be seen that my invention generally designated by the numeral 8, comprises two members designated by the numeral 9, which are similar in shape and form to simulate corresponding members on a pair of spectacles.

The members 9 are provided with swaged portions designated by the numeral 10 and which is conventional structure used on spectacles in order to provide the maximum of comfort to the wearer.

The members 9 are different from similar members furnished on spectacles inasmuch as they possess an additional extension designated by the numeral 12 the object and purpose of which will be hereinafter explained.

As can be seen, the member 9 has a flat or swaged portion designated by the numeral 11 in order to provide a practical bearing surface to be assembled to the bearing member designated by the numeral 38.

The bent portion 12 is also flattened in order that it may be attached to the member 13 which is preferably round or circular in cross-section, preferably wire, rod, or rod structure having also a swaged portion designated by the numeral 14.

As can be seen in Fig. 6, the portions 12 and 13 are attached by the screw member designated 15, having a shoulder portion designated 16, and a threaded portion designated 17.

The shoulder 17 is a few thousandths greater in length than the thickness of the swaged portion 12 in order to provide a nice working fit.

The portion 11 is secured to the bearing portion 38 by a pin member designated by the numeral 38' which is a tight or pressed fit in the bearing portion 38, and a working fit in a hole in the swaged portion 11.

The rod 12 is bent in angular relationship at an angle of approximately 90° as shown in the view Figure 3, and is provided with the bent portion designated by the numeral 18, and a reduced shank portion designated by the numeral 19, having at its lower extremity a threaded hole designated by the numeral 20. This shank portion 19 is fitted into the hole 23 in the block 22, and is secured in place by a fillister head screw designated by the numeral 21 having the head 24 and a threaded shank portion to fit the threaded hole designated 20.

As can be seen, my invention comprises two members 9 and two members 13, which are made to cooperate with one another by virtue of the assembly heretofore indicated, and the entire assembly being tied together by the brace member designated by the numeral 35 which is similar, and conforms in shape to the frame structure of a pair of ordinary spectacles, except for the fact that the upper rim portions are cut away.

It is also provided with the usual and standard nose bridge member designated by the numeral 36. This enables the wearer to wear my invention in the same manner that he would wear a pair of ordinary standard spectacles, with the exception that the portions 35 are large enough so that an observer wearing spectacles for corrective vision will be able to use his spectacles if he should so desire, in conjunction and simultaneously when using my invention. The arcuate half rim por-

tions 35 are made large enough to furnish clearance for the rims of spectacles.

The member 35 is grooved or channeled not indicated in the drawing so as to avoid confusion, and in order that lenses, if desired, may be placed in them for such and various uses that an optometrist may have occasion to avail himself of in his work.

It will be noticed that the two members designated by the numeral 13 are secured to a block member designated by the numeral 22 heretofore mentioned, which block member is provided with a triangular extension portion designated by the numeral 25 and the angular section of the said block member designated by the numeral 37 (Figure 4) is for the purpose of gauging and acting as a stop for the projectional movement of the lenses when advanced from the bridge member designated by the numeral 36.

The included angle 37 of the extension 25 determines the exact focal positioning of the lenses 34 which are attached to this block member designated 22.

The block is further provided with two slotted portions designated by the numeral 43 one on each side, which slotted portions are a few thousandths larger in dimension than the thickness of the extension 32 of the lens holders, and as can be seen, the screw members designated 33 are provided with a shoulder portion designated 39 and a threaded portion designated 40.

The block member 22 is drilled and counterbored to receive the screw members 33, the hole 42 bored to fit the shoulder 32 and the threaded hole 41 provided for the threaded shank 40.

It should be noticed that the shoulder portion 39 of the screw does not contact the bottom portion of the slot 43 providing a little leeway for clamping action to take place, so that the portions 32 of the lens holders may be held more or less under a slight friction permitting the lenses to be set at any position and remain in position.

Movement of the lens holders may be effected without making any adjustment and without using any tools of any kind. The lens holders are merely grasped between two fingers and moved to the proper position, remaining where they are positioned when released.

The lens holders as can be seen, are made of two parts, a member designated by the numeral 31, and a bezel member designated by the numeral 30, the portion 31 being provided with the extension 32 heretofore mentioned. The lenses 34 are fitted within the circular opening provided by the two members 30 and 31 and are secured therebetween.

The dotted circles in Figure 2 indicate a few of the many positions that the lenses 34 may assume, and where they may be readily located by the user depending on his comfort and furnishing a wide range of radial adjustment best suited to his convenience.

In Figure 7 I show that an illuminating arrangement may be provided with this device, whenever said device is used in places where artificial illumination may be necessary. Altho that may be done in any number of ways, one exemplary manner being the one shown in Figure 7, wherein I use an elbow fitting 26 having a shoulder portion fitting into a drilled hole in the block 22 or the portion 25 of the block 22, and being provided at its other end with a rolled thread portion suitable to meet the standards of electric light bulb construction designated by the numeral 27.

The electric wire 29 contacts the bulb socket of the member 26 and is passed thru the hole 28 of the block member 22. The wiring 29 may be attached in any suitable manner, and thrown over the ears of the observer, its opposite terminal being connected to some electrical source of supply such as a battery.

In Figure 1, as can be noticed, the dotted position shows the manner in which my invention, namely this binocular structure may be collapsed. The dotted lines do not indicate the complete collapsing of the device, since it is desired to avoid having too many confusing lines within close range of one another.

It can be definitely seen however, that the block 22 holding the lenses and the members 9 can be collapsed so that the members 9 contact the bridge member 36 on the one side, and the block member 22 and its connecting details or arms 13 contact the bridge member on the opposing side.

In using my invention it is placed on the head of any person who desires to make use of this device, in the same manner as ordinary spectacles, allowing the bridge portion 36 to rest on the nose, and the members 9 to rest on the head.

The lens holders are then rotated in the position most advantageous for use, and then specimens that require enlargement or examination, may be readily inspected, when placed within the range of the focal length of the lenses 34.

In my invention I provide an ideal binocular structure, in view of the fact that there is no supporting structure between the focal centers of the lenses. The binoculars now in use, all have structure used for range adjustment or support located between the focal centers, which in a sense characterizes the present structure as truly monocular rather than binocular.

With my invention both eyes of the observer and the resultant merging of vision may be directed thru either one lens or both lenses simultaneously.

Altho I have described my invention in succinct terms, and inasmuch as I realize that it may be susceptible of many changes, improvements, and modification, I reserve the right to all such charges, modification, and improvements, that may come within the purview of the accompanying drawing, and the foregoing description; my invention being limited only by the subjoined claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In an instrument of the character described, in combination with a spectacle frame-work and a lens holder support, temple bar members made of a single piece having forward extensions, a pair of arms pivotally secured to the forward extensions of said temple bar members at one of their ends, their opposite ends pivotally secured to said lens holder support in triangular formation.

2. An instrument of the character described, comprising, a spectacle frame-work comprised of a bridge member, a pair of temple bar members having forward extensions pivotally secured to said bridge member, a lens holder support provided with a triangular section for limiting the projected location of said lens holder support with respect to said bridge member, a pair of lens holders independently and pivotally mounted

on said lens holder support, and a pair of arms pivotally and intermediately mounted on the forward extensions of said temple bar members and said lens holder support, the said arms arranged in triangular formation, the said arms positioned on said lens holder support in abutting relationship with the said triangular section, when the said lens holder support is projected forward.

3. An instrument of the character described comprising, a spectacle frame-work, a lens holder support secured to said spectacle frame-work, and means for projecting the said lens holder when said frame-work is opened to be worn by an observer, the said projecting means comprising temple bar means provided with forward extensions, a pair of arms intermediately and pivotally secured to the forward extensions of the said temple bar means and the said lens holder support in triangular formation, the said means adapted to collapse the entire instrument when folded like an ordinary spectacle frame-work.

4. In an instrument of the character described, in combination with a spectacle frame-work, a lens holder support, and means associated therewith for projecting and collapsing the said lens holder with respect to the said frame-work, the said projecting means comprising temple bar means provided with forward extensions, a pair of arms intermediately and pivotally secured to the forward extensions of the said temple bar means and the said lens holder support in triangular formation.

5. In an instrument of the character described, a spectacle frame-work, a lens holder support, and projecting means, said spectacle frame-work provided with temple bar members made of a single piece, having forward extensions adapted to secure articulately the means for projecting and collapsing the lens holder support, the said projecting means comprising a pair of arms intermediately and pivotally secured to the forward extensions of the said temple bar members and the said lens holder support in triangular formation.

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