Dec. 26, 1933. H. NEUWIRTH 1,940,875

HAND READING GLASS

Filed Oct. 6, 1930

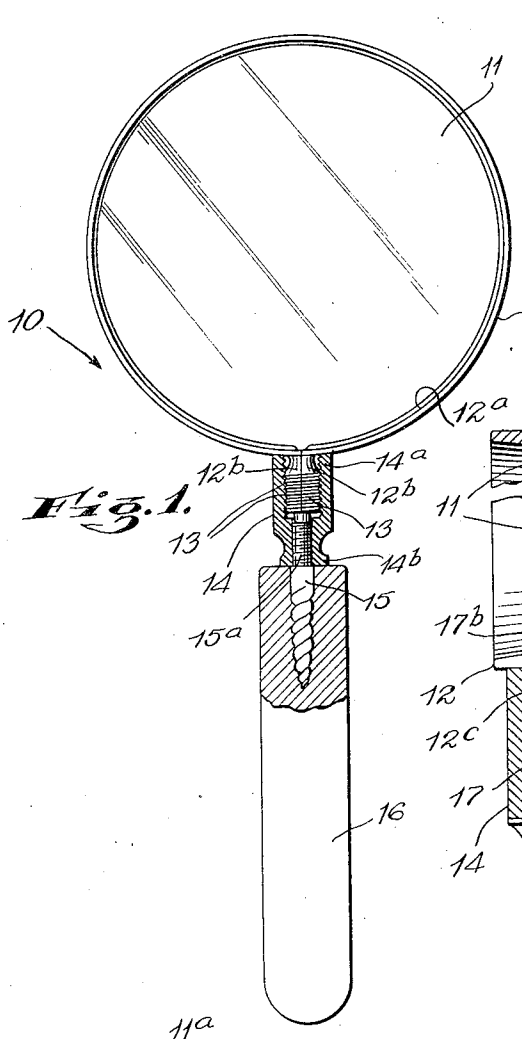


Fig. 1.

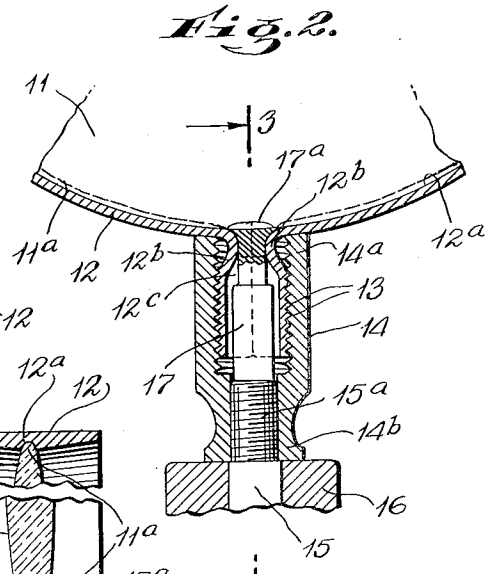


Fig. 2.

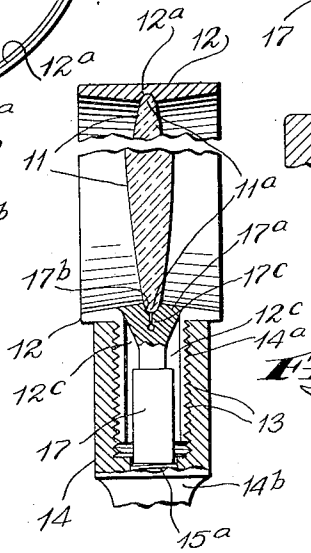


Fig. 3.

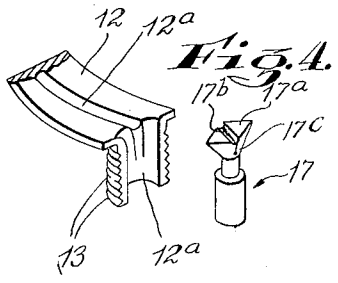


Fig. 4.

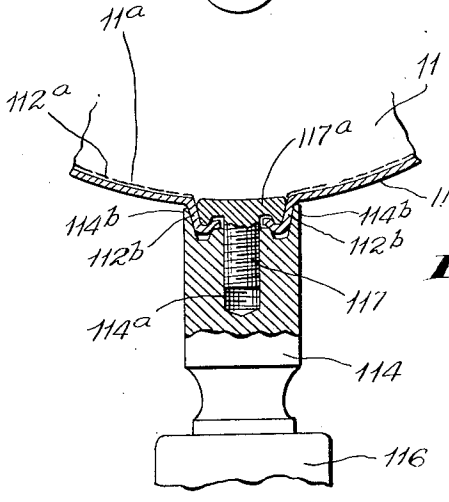


Fig. 5.

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HAND READING GLASS

Herman Neuwirth, New York, N. Y.

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3 Claims. (Cl. 88—39)

This invention relates to hand reading glasses hereinafter called, "readers" and like devices. More particularly, this invention is directed to improved constructions of handled lens rim-frames of devices of the character described.

Among the objects of the invention is to generally improve the construction of handled lens rim-frames of devices of the character described comprising few and simple parts which shall be easily assembled to form rigid mountings and whereby irregularities in the size of the lenses due to grinding are compensated for, which shall be cheap to manufacture, and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the constructions hereinafter described and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown various possible illustrative embodiments of this invention.

Fig. 1 is a front elevational view of the improved hand reading glass or reader embodying the invention, portions of the lens rim-frame and handle being broken away to expose the interior construction.

Fig. 2 is a fragmentary cross-sectional view corresponding to Fig. 1 and showing in detail the handle attachment portion of the improved rim-frame and the wedge piece.

Fig. 3 is a fragmentary cross-sectional view corresponding to a cut taken along line 3—3 in Fig. 2.

Fig. 4 is a perspective view of a fragmentary portion of the ring frame showing one end thereof and the wedge piece spaced from said frame, and

Fig. 5 is a fragmentary view of a modified construction of handle attachment portion of the rim-frame using another novel form of wedge piece.

Referring in detail to the drawing, 10 denotes an improved hand reading glass or reader, constructed to embody the invention. Said reader 10 is seen to comprise a suitable convexed lens 11 fitted into an inner groove 12*a* of a rim frame 12, said frame being of the split ring type. The rim frame 12 may be made of strip sheet springy material and forms a closed ring structure, preferably having the ends 12*b* thereof bent to form outward projections adapted to be brought in abutment to form a closure for the rim frame. Said abutting closure projections provide a split stud which may have the exterior surfaces thereof threaded as at 13. The ends 12*a* are preferably formed integral with the strip material of the rim frame thereby eliminating operation of the usual brazing or soldering separate threaded ends on the rim-frame as is required in the manufacture of the conventional type of rim-frames of this class.

A coupling member 14 having a threaded hole portion at one end 14*a* thereof screwed on the threads 13 of the ring ends 12*a*, has a hole on the other end 14*b* of said member for receiving a screw stud head 15*a* of a screw 15 projecting from the end of a suitable handle 16, as is clearly shown in Figs. 1 and 2.

In forming the ring frame ends 12*a*, an axial passage 12*c* is provided through which extends a wedge piece 17, said wedge piece having a head portion 17*a* which is adapted to fit the gap between the portion of the ends 12*b* adjacent the lens 11.

The groove 12*a* formed in the inner side of the frame 12 extends continuously lengthwise the middle of the latter and forms a seat for the edge 11*a* of the lens 11. The wedge piece 17*a* may also be provided with a groove portion or notch surface 17*b* for abutting the lens 11.

The notch 17*b* may be provided with a slit 17*c* extending down through the head 17*a* to form the latter into a resilient contacting structure for engaging the lens edge 11*a* as shown in Fig. 3.

The utilization of the invention will now be apparent. After the rim frame 12, coupling 14, wedge piece 17 and handle 16 have been provided as shown in the drawing and described above, the lens 11 is inserted into the groove 12*a* of the rim-frame. The ends 12*b* of the rim are then pressed into abutment, the wedge piece 17 being first inserted in the passage 12*c* formed by said abutting ends. Coupling member 14 is next screwed on to the frame ends 12*b* for clamping the lens in its seated position. Lastly, the handle 16 is attached to the coupling member 14 by screwing the theaded head 15*a* of the screw into the coupling. Said head 15*a* in advancing into the coupling 14 comes in contact with the bottom or lower end of the wedge piece 17 and forces the latter toward the lens so that the head end 17*a* of the wedge piece presses against the edge of the lens, thereby tightly securing the lens 11 in the ring frame 12.

In manufacturing lenses for readers, the edges 11*a* of the lenses are ground to a required diameter. As it is commercially uneconomical to grind lenses to exactly the same diameter, although the same size readers are being made, there is therefore appreciable irregularity in the lens diameters. Also due to slight difference in the lengths of the rim-frames, difficulty is often experienced in providing a tightly clamped connection of the ring-frames around the lenses. By providing wedge pieces 17 in the manner described above and as shown in Figs. 1 to 4, inclu-

sive, all looseness of the lenses in the ring-frames can be eliminated by simply screwing up on the handles 16 to force the wedge pieces 17 against the lenses as described above.

The slitted portion 17*c* extending from the notch 17*b* may be provided when the wedge piece 17 is made of a resilient material, such as brass, steel, aluminum, etc. It is understood that where the piece 17 is formed of other materials such as die casting metal, fibre, wood and the like, this slitted portion 17*c* and even the notch 17*b* may be omitted since pressing such material against the edge of the lens will form a depression in the head of the wedge piece which will serve the same purpose as the notch 17*b* and slitted portion 17*c* of the wedge piece 17 described above.

In the modified construction of the invention shown in Fig. 5, the lens 11 is retained in the groove 112*a* of the split ring rim-frame 112. The ends 112*b* of said frame are bent and fitted about the head 117*a* of a wedge piece 117 which is threaded and screwed into the threaded hole 114*a* of the coupling 114 terminating the end of the handle 116. The coupling 114 has its upper end 114*b* shaped to conform to the exterior of the frame ends 112*b*. Thus when the coupling 114 together with the handle 116 are assembled on to the wedge piece 117, the upper end 114*b* of the coupling clampingly engages the frame ends 112*b* and at the same time forces the head 117*a* against the edge 11*a* of the lens eliminating any looseness between the lens and the ring frame 112.

It will thus be seen that there is provided means whereby the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

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

1. A split ring of sheet material forming the rim-frame for a magnifying glass, integral ends of said sheet material being bent and threaded, a handle attachment coupling screwed on said threaded ends for securing the frame about the glass, and a wedge piece extending between said ends actuated by said coupling for clamping the wedge piece against the glass.

2. A split ring of sheet material forming the rim-frame for a magnifying glass, integral ends of said sheet material being bent and threaded, a coupling having one end screwed on said threaded frame ends, a handle screwed into the other end of said coupling, and a wedge piece extending within the coupling between said frame ends, said handle having an extension for pressing the wedge piece against said glass on screwing the handle into the coupling.

3. A magnifying device of the character described comprising a lens, a split rim frame grooved to receive the lens, and a wedge piece extending between the ends of said split rim-frame, and means for adjusting the wedge with respect to the frame, said piece having a notched end contacting the lens.

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