Feb. 15, 1938. E. F. McMAHON 2,108,074

SPECTACLES

Filed Oct. 26, 1935

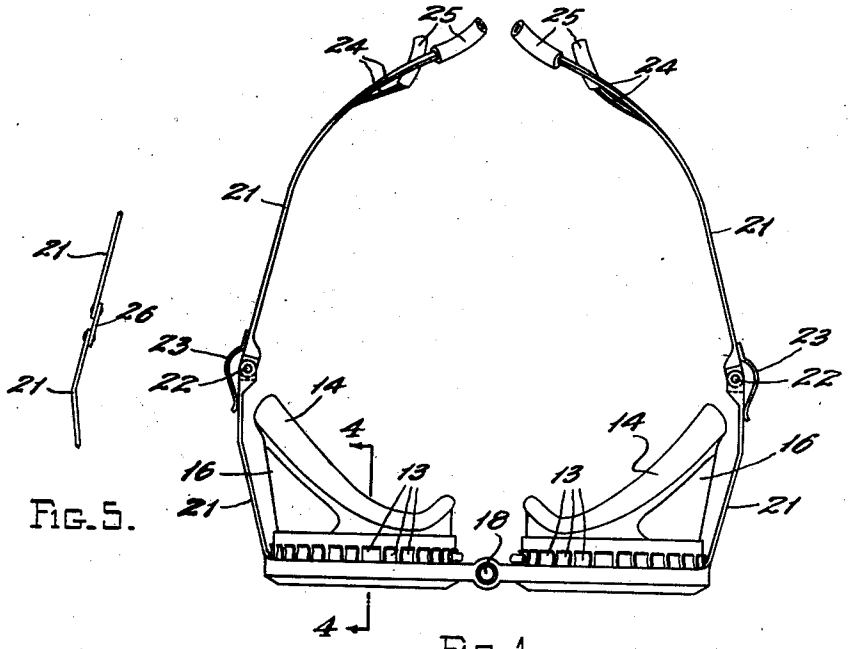


FIG. 5.

FIG. 1

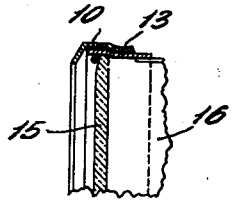


FIG. 4.

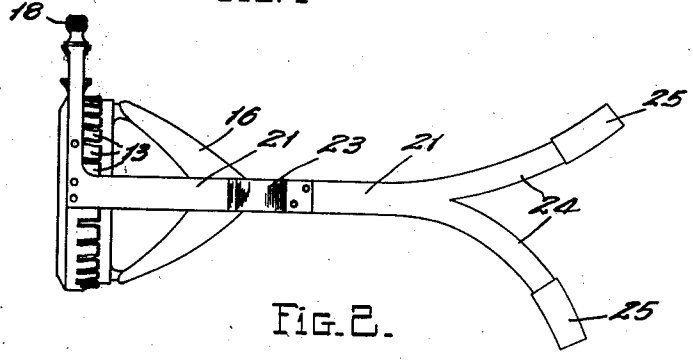


FIG. 2.

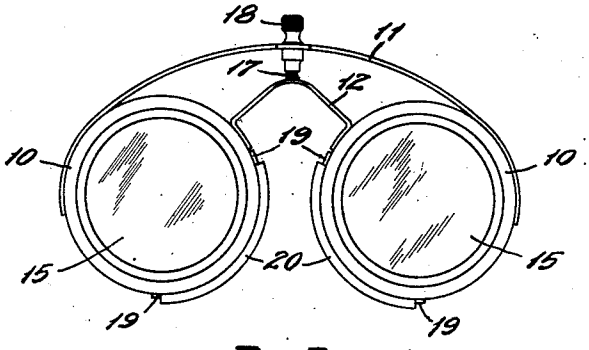


FIG. 3.

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SPECTACLES

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4 Claims. (Cl. 88—41)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

This invention relates to spectacles and, although applicable to spectacles having magnifying characteristics employed as an aid to the vision, it has particular relation to goggles used by mechanics and other artisans as a protection against dust and other flying particles.

One of the objects of the present invention is the provision of goggles of the character described, having eye cups which may be adjusted rotatably and also toward and away from one another, in order to conform to the facial contour of the wearer.

Another object of the invention is the provision of goggles having head engaging bow members which are so constructed and assembled as to afford a yieldable multipoint contact with the head so as not only to distribute the pressure exerted by the bow members but to brace the goggles as against lateral tilting.

With these and other objects in view, as well as other advantages which may be incident to the use of the improvements, the invention consists of the parts and combinations thereof hereinafter set forth and claimed, with the understanding that the several necessary elements constituting the same may be varied in proportion and arrangement without departing from the nature and scope of the invention, as defined in the appended claims.

In order to make the invention more clearly understood, there are shown in the accompanying drawing means for carrying the invention into practical effect, without limiting the improvements in their useful application to the particular construction, which, for purposes of explanation, have been made the subject of illustration.

In the accompanying drawing:

Fig. 1 is a plan view of a pair of goggles constructed in accordance with the present invention;

Fig. 2 is a side elevational view of the structure shown in Fig. 1;

Fig. 3 is a front elevational view of the improved goggles;

Fig. 4 is a fragmentary, vertical, sectional view taken on line 4—4 of Fig. 1, but on a larger scale, and

Fig. 5 is a detailed view of the leaf spring construction for imparting flexibility to the head engaging bow members.

Referring to the drawing, a pair of goggles embodying the present invention is shown as comprising two annular members 10 connected with one another by upper and lower bridge members 11 and 12, respectively, in the form of spring straps. The upper bridge member 11 is secured at its ends in any preferred manner such as by brazing or riveting to the outer circumferential area of the annular members 10, whereas the lower bridge member 12 is suitably secured to the inner circumferential area of the annular members, but in vertically spaced relation with respect to the upper member 11.

The annular members 10 are each formed with a plurality of circumferentially arranged rearwardly extending spaced spring fingers or clips 13, adapted to engage and frictionally retain the usual eye cups 14 provided with lenses 15 and side guards 16. It will be understood that although the lenses 15 are shown as having zero curvature, the invention is also applicable to lenses having magnifying properties. The spring fingers 13 are of sufficient strength to maintain the eye cups 14 against accidental displacement and yet permit of their rotation therein, so as to accommodate the side guards 16 to the facial contour of the wearer.

The bridge members 11 and 12 are connected with one another at an intermediate point by means of a screw 17 (Fig. 3), which is fixed in the lower bridge member 12 for screw threaded engagement by a thumb nut 18, which is rotatably mounted in the upper bridge member 11 but maintained against axial movement therein. When the thumb nut 18 is turned in one direction the screw 17 and the nut will be drawn together, thereby flexing the spring bridge members 11 and 12 toward one another and drawing the annular members 10 and eye cups 14 inwardly in an obvious manner to shorten the distance between the optical centers of the lenses 15. On the other hand, if the thumb nut 18 is turned in an opposite direction the spring bridge members 11 and 12 will be flexed away from one another and force the annular members and eye cups 14 apart, thus increasing the distance between the optical centers of the lenses 15.

A pair of spring wires or clips 19 are secured at their upper ends only to the circumferences of the annular members 10 adjacent to the space therebetween and constitute the support for a pair of tubular padding members or cushions 20, which are slipped thereon for contact with the nose of the wearer. The distance between these padding members may be also varied by means of the thumb nut 18, in order to provide a comfortable fit.

The goggles are also provided with rearwardly extending spring bow members 21 which are hinged as at 22 intermediate their ends so as to

permit them to be folded inwardly when not in use. Supplemental springs **23** may be employed adjacent to the hinges **22** so as to prevent the bow members from swinging outwardly an excessive distance in the event they are freely pivoted. These springs, however, may be dispensed with if the hinges **22** are provided with shoulders which abut at a predetermined point, so as to limit the outward swinging movement of the bow members.

The rear portions of the bow members **21** are bifurcated to provide diverging branches **24**, each provided with a tubular padding or cushion **25**, for contact with the head. This particular construction is desirable for the reason that it not only distributes the pressure of the spring bow members upon the head but maintains the goggles as against lateral tilting. If desired, the bow members **21** may be provided with leaf spring inserts **26** (Fig. 5), in the event the bow members are relatively rigid and it is not desired to have them foldable. Also, the nut **18** may be fixed to either of the members **11** or **12** and the screw **17** provided with a suitable manipulating head and rotatably mounted in the other of said members.

Other modifications and changes in proportions and arrangement of the parts may be made by those skilled in the art without departing from the nature and scope of the invention, as defined in the appended claims.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

What is claimed is:

1. Spectacles comprising a pair of lenses, a pair of vertically spaced bridge members connecting said lenses, a screw element carried by one of said bridge members, and a nut element carried by the other of said bridge members for threaded engagement with said screw element, said elements being relatively rotatable to vary the spacing of said bridge members and hence the distance between said lenses.

2. Spectacles comprising a pair of lenses, a pair of vertically spaced bridge members connecting said lenses, a screw fixed to one of said members, and a nut mounted in the other of said members for threaded engagement with said screw, said nut being rotatable to vary the spacing of said bridge members and hence the distance between said lenses.

3. Spectacles comprising a pair of lenses, a pair of vertically spaced spring bridge members connecting said lenses, a screw fixed to one of said members, and a nut carried by the other of said members for threaded engagement with said screw, said nut being rotatable to flex said spring bridge members toward and away from one another, thus to vary the distance between said lenses.

4. Spectacles comprising a frame including a pair of annular members, each having a plurality of circumferentially arranged spring clips, and a pair of eye cups mounted in said annular members and maintained therein by said spring clips, said eye cups being rotatable against the friction of said spring clips to conform to the facial contour of the wearer.

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