Sept. 6, 1932. G. R. HANNAN ET AL 1,876,412

GLARE SHIELD

Filed Feb. 25, 1932

Fig. 1.

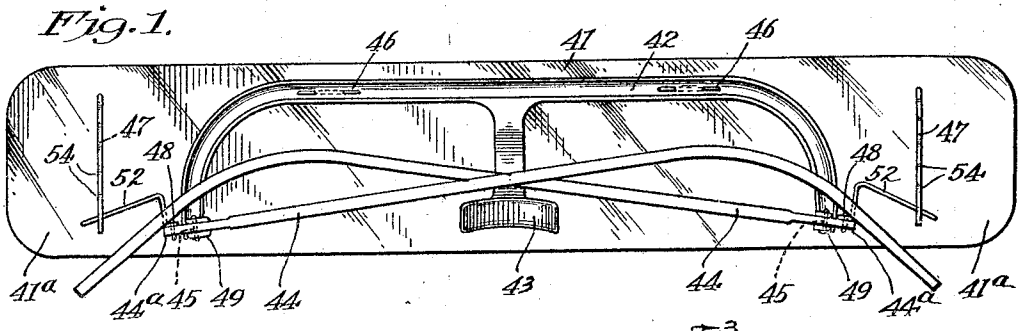


Fig. 2.

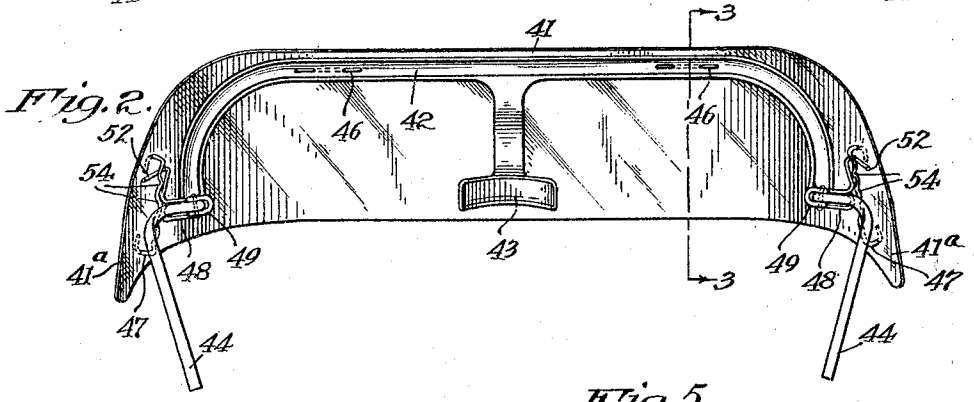


Fig. 5.

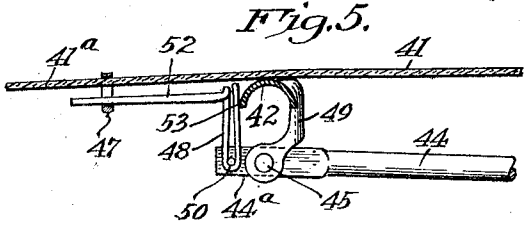


Fig. 3.

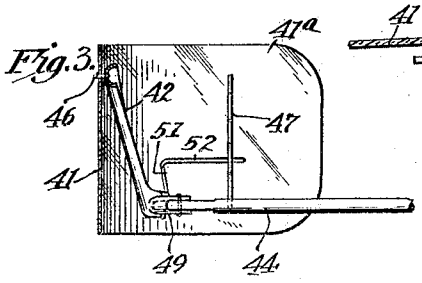


Fig. 6.

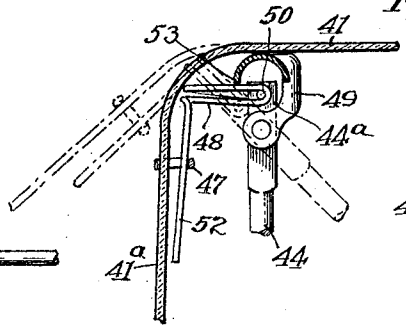


Fig. 4.

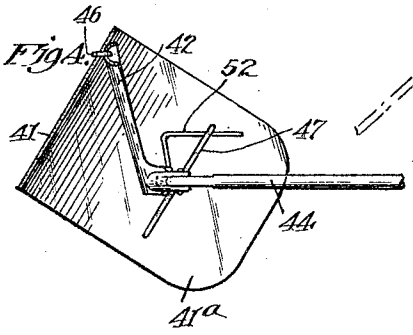
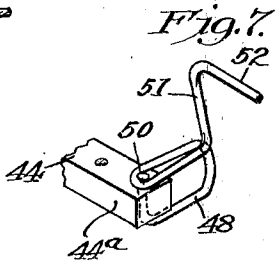


Fig. 7.



INVENTORS:
George R. Hannan,
Rutherford G. Goldman,
BY
R. W. Smith
ATTORNEY.

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UNITED STATES PATENT OFFICE

GEORGE R. HANNAN AND RUTHERFORD G. GOLDMAN, OF LOS ANGELES, CALIFORNIA, ASSIGNORS TO H. T. BARLOW, OF LOS ANGELES, CALIFORNIA

GLARE SHIELD

Application filed February 25, 1932. Serial No. 594,996.

This invention is a glare shield for the eyes; and has for its object to provide a shield adapted to lie flat against a supporting frame when the latter is folded, and adapted to have its ends automatically curved rearwardly around the ends of the frame when the latter is operatively mounted across the face of the wearer with ear-pieces unfolded and hooked over the ears. The medial portion of the shield is thus adapted to project forwardly and downwardly in front of the operatively mounted frame so as to protect the eyes against glare from in front, and the rearwardly curved ends of the shield protect against glare from the sides.

It is a further object of the invention to provide for angularly adjusting the operatively positioned shield so as to adapt it to the individual user.

It is a still further object of the invention to provide an extremely simple and compact construction whereby the shield is held in assembled relation to its supporting frame, with the ends of the shield adapted for positive automatic shifting by folding and unfolding the ear-pieces of the frame, so that the shield lies in one flat plane when the frame is folded, and is operatively positioned with relation to the frame when the latter is unfolded.

Further objects of the invention will be readily understood from the following description of the accompanying drawing, in which:

Fig. 1 is a rear elevation of the invention in its folded position.

Fig. 2 is a similar view showing its operative position.

Fig. 3 is a vertical section on the line 3—3 of Fig. 2, showing the shield prior to its adjustment to desired tilted position.

Fig. 4 is a similar view showing the shield in tiltably adjusted position.

Fig. 5 is a detail plan view of one of the hinge connections for the supporting frame, showing the position of the parts when folded.

Fig. 6 is a similar view showing unfolded position of the parts.

Fig. 7 is a detailed perspective view of one of the operating levers.

As shown in the drawing a shield element 41 is mounted on a bowed supporting frame 42 which is adapted to extend across the face of the wearer so as to form a transverse support above the eyes, with the supporting frame preferably having a medially depending nose-piece 43 and end ear-pieces 44 hinged to the bowed frame as shown at 45, so that the supporting frame may be unfolded for use as shown in Fig. 2, with the nose-piece adapted to rest upon the nose of the wearer and the ear-pieces extending rearwardly and adapted to hook over the ears, or the supporting frame may be folded as shown in Fig. 1, with the ear-pieces in crossed relation and lying flat against frame 42.

The shield element 41 is an elongated resiliently flexible strip of material adapted to intercept glare, suitably tinted celluloid for example, and is so positioned as to extend across the front of frame 42 with its medial portion supported on the frame and its ends 41*a* adapted to lie in the plane of the medial portion of the strip when the shield is not in use as shown in Fig. 1, and adapted to be automatically curved rearwardly around the ends of frame 42 and alongside the ear-pieces 44 when the the latter are unfolded as shown in Fig. 2. The rearwardly curved ends of the shield are adapted to be tilted downwardly with relation to ear-pieces 44, from the position shown in Fig. 3 to that shown in Fig. 4, so as to tilt the medial portion of the shield with relation to frame 42 and thereby project the medial portion of the shield downwardly and outwardly from the supporting frame so as to provide a glare shield in front of the eyes, and at the same time the rearwardly curved and downwardly tilted ends of the shield protect the eyes against glare from the sides.

As an instance of this arrangement the medial portion of the shield is pivoted adjacent its upper edge to the medial portion of frame 42 by means of wire clips 46, the shanks of which are of such length as to permit pivotal play of the shield with relation to its supporting frame so as to prevent binding while at

the same time securing the shield and frame in assembled relation; and the ends of the shield are provided with wire loops 47 at their inner surfaces, adapted for engagement by levers 48 for swinging the shield ends to operative or inoperative position in accordance with the unfolding or folding of ear-pieces 44.

For this purpose the hinge connections for the ear-pieces include forked brackets 49 projecting rearwardly from the ends of frame 42 and adapted to receive the ends of the ear-pieces, with the pivot pins 45 which constitute the hinge mountings extending through the brackets and ear-pieces in spaced relation from the ends of the latter as shown in Fig. 5. The levers 48 are pivoted to the projecting ends 44*a* of the ear-pieces as shown at 50, and are each preferably formed from a looped wire as shown in Fig. 7. The end of the wire which forms the swinging end of its lever extends upwardly as shown at 51 and terminates in an arm 52 which projects substantially at right angles to its lever and is slidably received in back of the wire loop 47 on the adjacent end of the shield 41.

At intermediate points the levers 48 bear against the proximate ends of frame 42 as shown at 53, so that when the ear-pieces 44 are folded the levers are fulcrumed at the points 53 and are swung from their connections 50 so that the levers are forwardly projected as shown in Fig. 5. The arms 52 of the levers are thus extended in prolongation of the plane of the folded supporting frame, and by their engagement in back of loops 47 correspondingly swing the ends 41*a* of the shield so that they form a prolongation of the flat plane of the medial portion of the shield. The flat shield structure is thus adapted to lie flat against the folded supporting frame.

When the shield is to be used the ear-pieces 44 are unfolded, with the connections 50 fulcruming levers 48 at their intermediate points 53 so as to first swing the levers to the broken line position and finally to the full line position shown in Fig. 6; and the swinging movement of the ear-pieces is limited by their abutment against brackets 49 when they are in operative position projecting rearwardly for hooked engagement over the ears. During the swinging movement of levers 48 the arms 52 are correspondingly swung so as to finally project rearwardly substantially parallel to the operatively positioned ear-pieces as shown in Fig. 6, and by engagement of the arms 52 in back of loops 47 the ends 41*a* of the shield are automatically curved rearwardly alongside the unfolded ear-pieces.

The parts are now in the position shown in Fig. 3, and by pressing downwardly upon the upper rear corners of shield ends 41*a* the entire shield structure may be swung at its pivotal connections 46 for tilting it to any desired angle as shown in Fig. 4. The loops 47 are corrugated along their length as shown at 54, and the tension of the resilient shield strip 41 tending to return its ends 41*a* to the plane of its medial portion binds the corrugated loops 47 against the arms 52 so that with the shield tilted to any desired adjustment, the parts are frictionally releasably held by the engagement of arms 52 with the corresponding depressions of the corrugated loops.

The ear-pieces of the supporting frame are then hooked over the ears of the wearer so that the medial portion of the shield projects downwardly and outwardly in front of the eyes and it ends project rearwardly and below the ear-pieces, thereby cutting off glare from in front and from the sides; and when the shield is no longer to be used, the supporting frame is removed from the face of the wearer and the ear-pieces 44 are folded, thereby positively returning the ends of the shield to the plane of its medial portion as previously described, so that the entire device is a substantially flat and compact structure which may be readily carried in the pocket.

We claim:

1. In combination, a supporting frame adapted to extend across the face adjacent the eyes and having hinged ear-pieces at its ends adapted to engage the ears, a shield having its medial portion extending across the front of the frame with its ends projecting beyond the ends of the frame, levers having engagement with the ends of the shield and pivotally supported with relation to the frame, and connections between the levers and hinged ear-pieces for swinging the levers by folding and unfolding the ear-pieces so as to respectively swing the ends of the shield to inoperative position lying in the plane of its medial portion and curve said shield ends to operative position extending rearwardly around the ends of the frame.

2. In combination, a supporting frame adapted to extend across the face adjacent the eyes and having hinged ear-pieces at its ends adapted to engage the ears, a shield having its medial portion extending across the front of the frame with its ends projecting beyond the ends of the frame, levers having engagement with the ends of the shield and pivotally supported with relation to the frame, connections between the levers and hinged ear-pieces for swinging the levers by folding and unfolding the ear-pieces so as to respectively swing the ends of the shield to inoperative position lying in the plane of its medial portion and curve said shield ends to operative position extending rearwardly around the ends of the frame, and means for adjusting the engagement between the levers and the operatively positioned shield ends for tilting the shield with relation to the frame.

3. In combination, a supporting frame adapted to extend across the face adjacent the eyes and having hinged ear-pieces at its ends adapted to engage the ears, a shield having its medial portion extending across the front of the frame and pivoted thereto with its ends projecting beyond the ends of the frame, levers having engagement with the ends of the shield and pivotally supported with relation to the frame, connections between the levers and hinged ear-pieces for swinging the levers by folding and unfolding the ear-pieces so as to respectively swing the ends of the shield to inoperative position lying in the plane of its medial portion and curve said shield ends to operative position extending rearwardly around the ends of the frame, and means for adjusting the engagement between the levers and the operatively positioned shield ends for pivoting the medial portion of the shield with relation to the frame so as to project the shield downwardly and outwardly in front of the frame.

4. In combination, a supporting frame adapted to extend across the face adjacent the eyes, a shield having its medial portion extending across the front of the frame with its ends projecting beyond the ends of the frame, rearwardly projecting brackets at the ends of the frame, ear-pieces hinged to the brackets and having ends projecting beyond the hinged connections, and levers having engagement with the ends of the shield and adapted to fulcrum on the frame with the opposite ends of the levers pivoted to the projecting ends of the ear-pieces for swinging the levers by folding and unfolding the ear-pieces so as to respectively swing the ends of the shield to inoperative position lying in the plane of its medial portion and curve said shield ends to operative position extending rearwardly around the ends of the frame.

5. In combination, a supporting frame adapted to extend across the face adjacent the eyes, a shield having its medial portion extending across the front of the frame with its ends projecting beyond the ends of the frame, rearwardly projecting brackets at the ends of the frame, ear-pieces hinged to the brackets and having ends projecting beyond the hinged connections, and levers having angularly disposed arms adapted for sliding engagement with the ends of the shield, said levers being adapted to fulcrum on the frame with the opposite ends of the levers pivoted to the projecting ends of the ear-pieces for swinging the levers by folding and unfolding the ear-pieces so as to respectively swing the ends of the shield to inoperative position lying in the plane of its medial portion and curve said shield ends to operative position extending rearwardly around the ends of the frame.

6. In combination, a supporting frame adapted to extend across the face adjacent the eyes, a shield having its medial portion extending across the front of the frame with its ends projecting beyond the ends of the frame, rearwardly projecting brackets at the ends of the frame, ear-pieces hinged to the brackets and having ends projecting beyond the hinged connections, loops on the ends of the shield, and levers having angularly disposed arms adapted for sliding engagement in said loops, said levers being adapted to fulcrum on the frame with the opposite ends of the levers pivoted to the projecting ends of the ear-pieces swinging the levers by folding and unfolding the ear-pieces so as to respectively swing the ends of the shield to inoperative position lying in the plane of its medial portion and curve said shield ends to operative position extending rearwardly around the ends of the frame.

7. In combination, a supporting frame adapted to extend across the face adjacent the eyes, a shield having its medial portion extending across the front of the frame with its ends projecting beyond the ends of the frame, rearwardly projecting brackets at the ends of the frame, ear-pieces hinged to the brackets and having ends projecting beyond the hinged connections, loops on the ends of the shield, and levers having angularly disposed arms adapted for sliding engagement in said loops, said levers being adapted to fulcrum on the frame with the opposite ends of the levers pivoted to the projecting ends of the ear-pieces swinging the levers by folding and unfolding the ear-pieces so as to respectively swing the ends of the shield to inoperative position lying in the plane of its medial portion and curve said shield ends to operative position extending rearwardly around the ends of the frame, and the loops being adapted to slide with relation to the cooperating arms of the levers when the shield ends are operatively positioned, so as to adjustably tilt the shield with relation to the frame.

8. In combination, a supporting frame adapted to extend across the face adjacent the eyes, a shield having its medial portion extending across the front of the frame with the ends projecting beyond the ends of the frame, rearwardly projecting brackets at the ends of the frame, ear-pieces hinged to the brackets and having ends projecting beyond the hinged connections, loops on the ends of the shield, and levers having angularly disposed arms adapted for sliding engagement in said loops, said levers being adapted to fulcrum on the frame with the opposite ends of the levers pivoted to the projecting ends of the ear-pieces swinging the levers by folding and unfolding the ear-pieces so as to respectively swing the ends of the shield to inoperative position lying in the

plane of its medial portion and curve said shield ends to operative position extending rearwardly around the ends of the frame, and the loops being adapted to slide with relation to the cooperating arms of the levers when the shield ends are operatively positioned, so as to adjustably tilt the shield with relation to the frame, the said loops being corrugated and adapted for tensioned engagement by the lever arms for releasably holding the shield in tiltably adjusted position by reception of the lever arms in depressions of said corrugations.

In testimony whereof we have affixed our signatures.

GEORGE R. HANNAN.
RUTHERFORD G. GOLDMAN.