Feb. 29, 1944. M. M. QUERING 2,343,157

EYE SHIELD AND SINUS COMPRESSOR

Filed Aug. 16, 1941

Fig. 1.

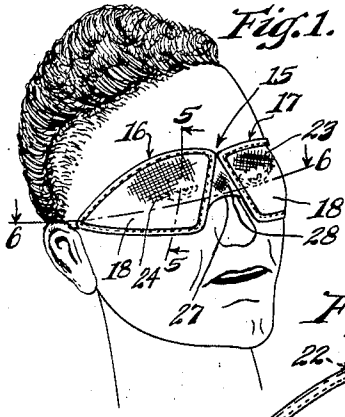


Fig. 2.

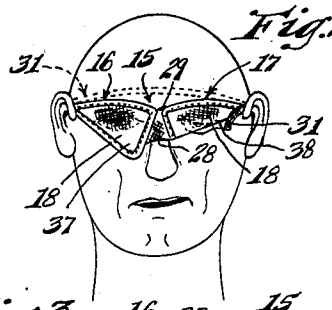


Fig. 5.



Fig. 3.

Fig. 4.

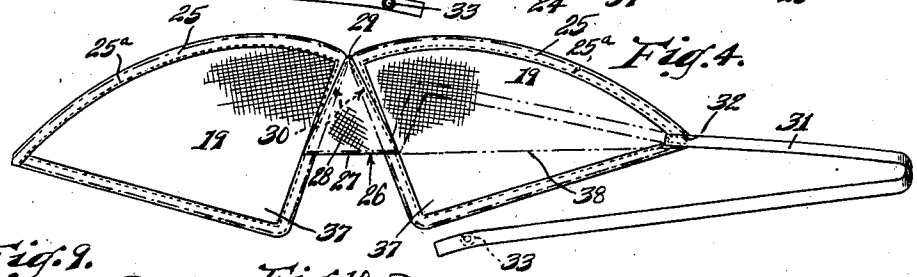


Fig. 9.

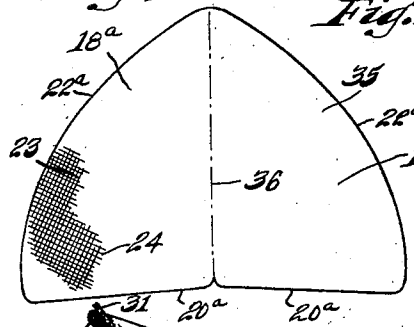


Fig. 10.

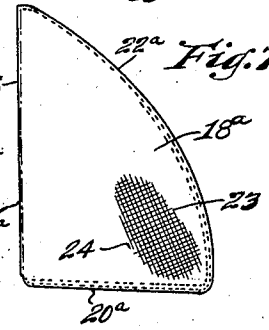
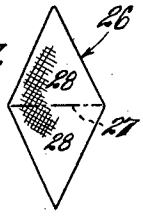


Fig. 7.



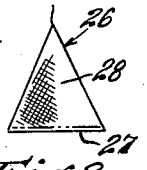
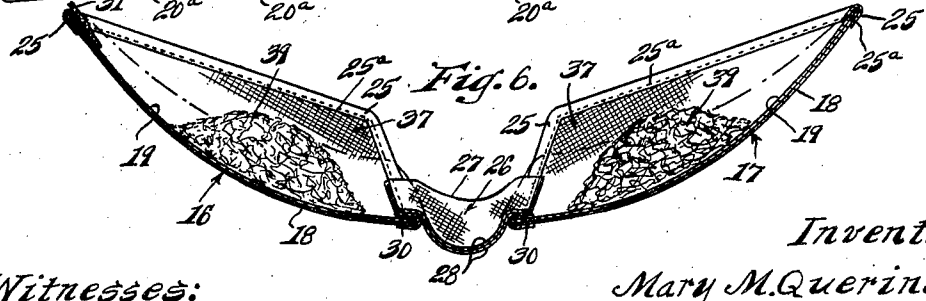


Fig. 8.

Fig. 6.



Witnesses:
C. E. Wessels.
Anita E. Matsen

Inventor;
Mary M. Quering,
By Joshua R. H. Potts
her Attorney.

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UNITED STATES PATENT OFFICE

2,343,157

EYE SHIELD AND SINUS COMPRESSOR

Mary M. Quering, Chicago, Ill.

Application August 16, 1941, Serial No. 407,155

2 Claims. (Cl. 2—12)

My invention relates to an eye shield and sinus compressor adapted not only for use as an eye protector or shield to exclude light rays in connection with treatments of the eyes or to reduce strain from light or induce restful sleep, but primarily to shield the eyes while properly conforming to the face around the eye cavities, holding and retaining in place over the eyes in the orbital recesses between the forehead and eyebrows, nose and cheeks, a wad batting or pad of cloth, cotton or soft paper tissue properly saturated or impregnated with medicinal liquid without causing undesired pressure on the eyes at the eyelids and lashes while properly supported and positively retaining in place the pads over the eyes and serving to compress or press against the sinuses or forehead and between the eyes and eyebrows to relieve sinus pain.

Another object is to provide an eye shield which permits either one or both eyes to be exposed or left uncovered without removing the device from the head, especially where only one eye is being treated.

Another object is to so construct the eye shield of novel and simple blanks to facilitate manufacture and render cost economical and to assist in definitely positioning and supporting the device on the face over the eyes by adapting the same to rest upon the nose and to fasten around the head to fit persons with different headsizes.

Still another object of the invention is to construct the eye shields or covers of material cut on the bias so as to accomplish the foregoing objects and advantages and to bulge out in concavo-convex shape in proper conformity with the face around the eyes and eye cavities to form pockets to receive and hold a medicated pad or saturated padding in addition to precluding the passage or entrance of light to the eyes.

Still another object of the invention is to provide novel blanks from which to construct the eye shield and to simplify the structure and manufacture and render same more economical as well as to produce a more serviceable device of relatively light weight.

Further objects and advantages will appear and be brought out more fully in the following specification, reference being had to the accompanying drawing, in which:

Fig. 1 is a perspective view of the device showing the same applied;

Fig. 2 is a front elevation of the device applied but with a flap of one eye shield turned up;

Fig. 3 is an enlarged front elevation of the eye shield and sinus compressor detached;

Fig. 4 is a rear elevation of the device as shown in Fig. 3;

Fig. 5 is a vertical section taken on the line 5—5 of Fig. 1;

Fig. 6 is a horizontal section taken on the line 6—6 of Fig. 1;

Fig. 7 is a plan view of a blank from which a center or nose piece is made;

Fig. 8 is a similar view of the blank folded;

Fig. 9 is a plan view of a blank of a modified form for producing the eye shields; and

Fig. 10 is a view of the blank shown in Fig. 9 folded.

Referring to the drawing the eye shield proper is designated generally at 15 and by reason of extending up over the brows and across the temples and forehead also serves as a sinus compressor to relieve pain therefrom and in treating same. The eye shields proper are designated at 16 and 17 and comprise sections or outer and inner plies 18 and 19 of suitable textile material or cloth such as cotton muslin or some suitable material which will permit the passage of air and which is readily washable and of light weight. These sections are preferably quarter elliptical or quarter ovate in shape and have straight inner edges 20 and straight bottom edges 21 substantially perpendicular thereto and arcuate or convex top edges 22 although the bottom edges 21 are somewhat longer than the inner substantially upright edges 20 and therefore cause the sections or blanks to taper more sharply toward the juncture of the sides 21 and 22 or at the apexes than at the corners produced by the juncture of the sides 20 and 22. As shown at 23 and 24, the material of the sections or the blanks is preferably cut on the bias, the threads running from the upper inner corner to the apex or lower outer corner at the juncture of the sides 21 and 22 and from the lower inner corners or juncture of the sides 20 and 21 diagonally toward the side 22 thereby permitting the sections to stretch somewhat and bulge outwardly in concavo-convex formation to form pockets or cavities as well as to snugly fit and conform to the contour of the face at the forehead, temples and cheeks around the orbital recesses and to bind against the sinuses. Two plies or sections 18 and 19 are used for each shield and they may be sewn together around the edges with or without a binding or tape 25 folded over said edges and stitched thereto as shown at 25a to prevent unraveling and produce a smoother, softer and more attractive edge and finish. The sections of the shield just described are connected at the center by a center piece or bridge 26 which is substantially diamond shaped as shown in Fig. 7 in so far as the blank from which the same is made is concerned and this blank is folded intermediately to triangular form on the line 27 connecting the obtuse angled sides so that the acute angled ends will meet and the opposed sides 28 will overlie one another with the folded edge 27 resting upon the bridge of the nose and serving to posi-

tively position and center the device as well as support it in proper relation to the eyes and face. This center piece or bridge 26 may be sewed along the inner edges 20 at their upper portions where the latter meet or converge at the point 29 of the bridge piece, the side edges 20 diverging downwardly and the opposite tapered edges of the bridge piece being sewn to the sections of the eyelids or covers in conjunction with the bindings 25 or independently thereof as indicated at 30. This center or bridge piece may also be cut on the bias from the same material as the shield sections although any suitable number of plies may be employed. An elastic or other head band 31 consisting of a suitable length of elastic tape or rubber, may be used to support the device on the head in conjunction with the nose or bridge piece and the same is fastened at one end to one of the sections as indicated at 32 at the juncture of the sides 21 and 22 and the opposite end carries a part of a separable fastener such as a ball or head 33 adapted to detachably engage a socket 34 fastened to the other eye shield at the corresponding extremity or tapered free end formed at the juncture of the sides 21 and 22 thereof so as to encircle the head and extend over the ears so that the device will be properly supported and maintained in its position relative to the forehead and eye cavities. It should be noted that the bridge piece 26 terminates at its lower edge substantially in alinement with the connections of the head band to the outer corners, thereby forming triangular flaps at the lower portions of the shields 16 and 17 below the line of stress between the ends of the head band. By this construction these flaps, or either of them independently, may be turned inwardly and upwardly to form a pocket or pockets to hold a medicated pad to the eye.

In Figs. 9 and 10 of the drawing the blank from which the shields proper are produced may be made in one piece as indicated at 35 with both plies integral and adapted to be folded along the center line 36. This blank is substantially semi-elliptical or semi-ovate and the cloth thereof is preferably cut on the bias the same as previously described and as shown in Figs. 9 and 10. This produces the sides 18*a* and 19*a* with the edges 20*a*, 21*a* and 22*a* which, when secured in assembled relation in connection with a center or bridge piece and the bindings will produce a structure otherwise the same as previously described and shown. In each instance, the portions of the shields which project below the lower or folded edge 27 of the center or bridge piece 26 along the edges 20 and 21 produce flaps 37 which are free to be folded upwardly either toward the inside along the line 38 connecting the base or bottom edge of the bridge piece with apexes of the shield members 16 and 17 at the juncture of the sides 21 and 22 as seen more particularly by the dotted and dash lines shown in Fig. 4 or upwardly toward the front so as to expose either or both eyes by uncovering the same and permit view especially by one eye when the other eye is being covered and treated. The pockets or concavo-convex cavities produced by the formation of the shield members 16 and 17 serve to receive and hold a pad or wad of cloth, cotton or soft paper tissue as indicated at 39 in Figs. 5 and 6 of the drawing which is held toward the eyes without unduly pressing thereon. When the flaps are turned inwardly they tend to serve as retainers which support the batting or pad as shown more particularly in dotted lines in Fig. 5 but may be turned upwardly and outwardly if desired and by reason of the material being cut on the bias and stress placed thereon by the head band and the elastic character thereof and the material or cloth formation, the eye shield as produced will tend to draw the same tightly across said lines 38 where the flaps are folded so as not to obscure the vision by dropping down.

It will thus be seen that I have provided an eye sheld and sinus compressor which is not only adapted as an eye protector or shield to exclude light rays in connection with treatments or to reduce strain from light but also to induce restful sleep by precluding the entrance of light, but primarily to shield the eyes while supporting a medicated pad or pads against the eyes and in holding, supporting and retaining the same in position over the eyes and in the orbital recesses in proper conformity to the forehead, brows, nose and cheeks. The device will also permit exposure of one eye by uncovering the same to facilitate treatment or application of the medicated pads or to permit vision of one eye while the other is covered and being treated especially when not confined at home. The device will also avoid unnecessary and undesirable pressure on the eyes and may be economically produced with facility.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. An eye shield and sinus compressor including substantially quarter ovate cloth sections joined together at the top with their straight edges at the inside and bottom, and a triangular bridge piece connecting the inner edges of said sections, said bridge piece terminating in spaced relation to the bottom edges of the sections to form triangular flaps at the bottom portions of the sections adapted to be folded upwardly.

2. An eyeshield comprising a pair of substantially quarter-ovate cloth sections connected at the points of juncture of the curved edges with the shorter sides, said curved edges being at the top and said shorter sides diverging downwardly at an acute angle to extend on each side of a nose, a triangular bridge piece extending downwardly part way between said shorter sides and connected thereto, a head band connected to the points of juncture of the outer ends of the longer sides and the curved edges, the last said points of juncture and the bottom edges of said nose piece being in substantial alignment, forming triangular flaps defined by a line extending between the outer corners of the said cloth sections, the lower longer sides thereof and the portion of the shorter sides below the bridge piece, whereby said flaps may be turned inwardly and upwardly for the purpose specified.

MARY M. QUERING.