R. MALCOM.

EYE SHIELD.

APPLICATION FILED JUNE 19, 1915.

1,200,635. Patented Oct. 10, 1916.

Fig. 3

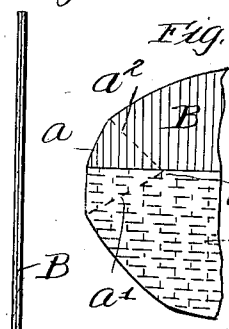


Fig. 2

Fig. 1.

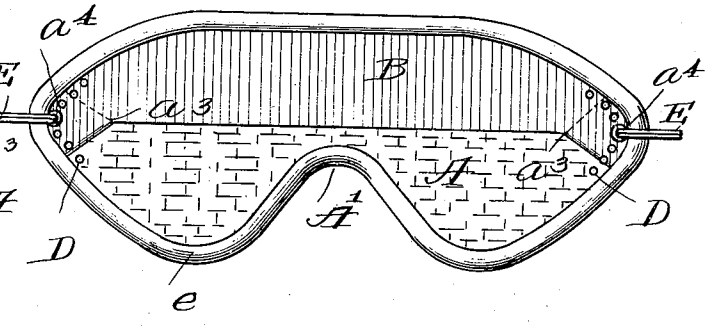


Fig. 5.

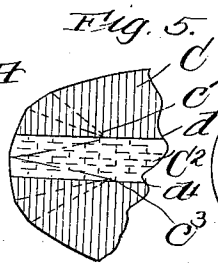


Fig. 4.

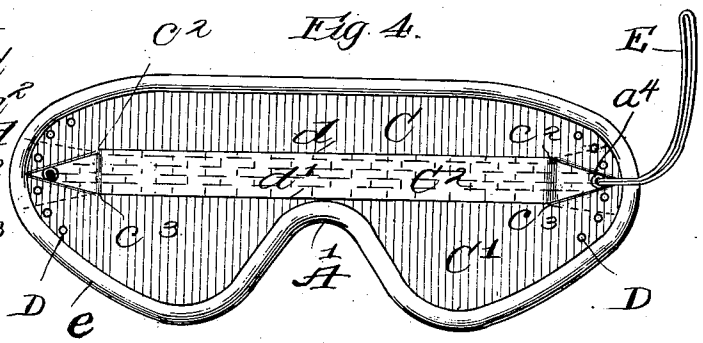


Fig. 7.



Fig. 6.

C

Fig. 9.

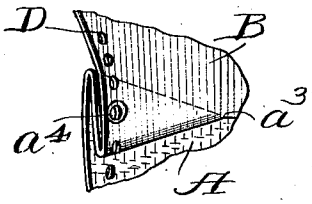


Fig. 10.

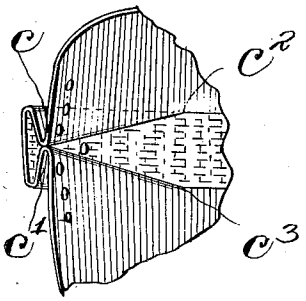
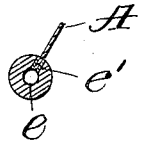


Fig. 8.



C²

C¹

Witnesses.

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UNITED STATES PATENT OFFICE.

ROBERT MALCOM, OF LA GRANGE, ILLINOIS.

EYE-SHIELD.

1,200,635. Specification of Letters Patent. Patented Oct. 10, 1916.

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To all whom it may concern:

Be it known that I, ROBERT MALCOM, a citizen of the United States, residing at La Grange, Cook county, State of Illinois, have invented certain new and useful Improvements in Eye-Shields, of which the following, taken in connection with the drawings, is a description.

My invention has for its object the production of a combined eye shield or protector and shade, designed to be worn by people exposed to the weather and to protect the eyes from wind, dust, flying particles, etc.

A further object of the invention is to also shade the eyes of the wearer from the direct rays of the sun from above, or if worn in winter to shade the eyes from the reflection of the sun on the snow, or from the reflection of the sun upon the water, or the like.

A further object of the invention is to so construct a shield of this kind that while the eyes are protected, the range of vision is in nowise impaired, the construction being such that the wearer has all of the advantages of a clear vision that he would have without the shaded portion hereinafter described.

A further object of the invention is to provide an eye shield of the class described which will fit comfortably upon the face of the wearer, and one which will be constructed with a binding material coming in contact with the face which will not absorb perspiration, which has heretofore been objectionable in connection with bindings of other materials.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims may be resorted to without departing from the spirit of or sacrificing any of the advantages of the invention.

In the drawings I have illustrated what I now consider an embodiment of the preferred forms of my invention, and in these drawings—

Figure 1 is a front view of the preferred form of my invention; Fig. 2 is a fragmentary detail of one end of the shield portion before the folding operation; Fig. 3 is an enlarged transverse sectional detail of the material forming the construction shown in Fig. 1; Fig. 4 is a front view of a modified form of construction adapted for use in protecting the eyes from reflections from snow, water, etc. Fig. 5 is a detail of one end of the material forming the construction shown in Fig. 4 before the material is folded at the ends; Fig. 6 is a longitudinal sectional view of the binding material; Fig. 7 is an enlarged transverse sectional detail of the material forming the construction shown in Fig. 4; Fig. 8 is a transverse sectional view of the binding illustrating the manner of securing the binding to the body of the shield; Fig. 9 is a perspective fragmentary detail illustrating the manner of folding the end of the form of construction shown in Fig. 1; and Fig. 10 is a perspective fragmentary detail illustrating the manner of folding the end portions of the form of construction shown in Fig. 4.

Referring to the drawings, Figs. 1 and 4 represent front views of eye shields embodying my invention, the material out of which they are formed being thin, transparent and flexible, such as celluloid or pyrolin. Heretofore it has been customary in the manufacture of eye shields of this character to construct them of a sheet of material of one color, or if it was desired to provide means for shading the eyes from the rays of the sun, to provide a separate shade of a contrasting or darker color for that purpose. The separate shade has been objectionable for the reason that it provides a space between it and the body of the shield whereby dust and dirt may accumulate. A further objection to the separate shade is the expense of the extra material and cost of manufacture.

Much difficulty has therefore been experienced in providing eye shields of this class which would meet the requirements of the trade and at the same time give the service which the wearer demanded, owing to the fact that the material out of which these goods were manufactured was made in sheets of but a single color. I have overcome this difficulty in being able now to produce a thin, flexible and transparent material formed in one piece having relatively light and darker strips or rows formed therein from which the body portion of my combined shield and shade may be formed

having the light color or clear strip or row in the material in that portion of the shield coming directly in front of the wearer's eyes, and the darker color or shaded strip or strips positioned above the eyes to form a shade to protect the eyes from the rays of the sun, or beneath the eyes, as shown in Fig. 4, to protect the eyes from the reflection of the sun on the snow or water, or for any other reason.

The process of forming the different colors of material in the same sheet of celluloid or pyrolin will be made the subject matter of a separate application, and needs no further explanation here.

The blank or foundation material out of which the body of my combined shield and shade is formed is cut to the proper length to extend across the face of the wearer, the ends thereof preferably rounded as shown in Figs. 2 and 5, with a notch or recess A′ formed in one edge thereof to accommodate the nose of the wearer.

In the form of construction shown in Fig. 1, A represents the light or clear portion of the body of the shield and B the relatively dark or shaded portion, the darker portion extending to a line just above the line of vision when the wearer would be looking straight ahead.

To construct the body of the shield so that the portion thereof extending directly in front of the eyes will be held out of contact with the eyelashes and far enough from the face to be comfortable to the wearer and permit the proper ventilation, I bend, fold and overlap the rounded end portion a, by first forming scored or weakened lines a, a^2, which converge to a point a^3, in the manner shown in Fig. 9. These overlapped or folded portions are then secured together by one or more eyelets a^4, which serve to secure the overlapped portions firmly together and form an end wall for the shield which extends approximately at right angles to the front of the shield proper. The material out of which these shields are made lends itself readily to the bending and overlapping of the end portions as shown in Fig. 9, the folded over portions of the material forming at least three thicknesses at the end of each shield, which acts as a reinforcement at the point of greatest strain when the shield is in use.

In the form of construction shown in Fig. 4, there is an upper portion of the shield body C and a lower portion C′ of shaded or relatively darker colored material than the center color or unshaded strip C^2, which extends from end to end of the shield body. In this form of construction the end portions are folded slightly differently than in the construction shown in Fig. 1. In this instance I form a double fold or plait, as shown at c, c', in Fig. 10. The upper fold C is bent along the lines as explained in connection with Fig. 1, which converge at the point c^2, on the upper line d of the clear or uncolored portion C^2, and the lower fold c', is bent along scored or weakened lines converging at c^3 on the lower line d' of the clear or uncolored portion C^2 of the body of the shield. In this construction it will be observed that the light or unshaded strip permits a clear and unobstructed view for the wearer, so that the vision is unobstructed in all directions and the shaded portions shade the eyes from above and below the line of vision. The folded or plaited ends c, c', also provide in this structure, a reinforcing wall at each end of the shield formed by the plurality of folds of material in the gathered-in portion of material causing the body of the eye shield to stand out and away from the features of the face of the wearer. This form of construction is found especially desirable for people who wear glasses or spectacles, as it provides sufficient room inside of the eye shield to comfortably fit over the same.

D represents apertures formed in the shield for the purpose of ventilation. These apertures may be placed in the ends of the construction, as shown, or wherever desired.

When the ends of the body portions are properly folded and overlapped and secured together with the eyelet as heretofore described, a binding e is placed around the outer edge of the shield proper. This binding is made of a flexible, non-absorbent material, preferably rubber or the like. A desirable binding for shields of this character may be formed of rubber tubing e, which is slit along one edge e', to permit the insertion of the edge of the shield body, as shown in Fig. 8. This binding is secured to the body of the shield by a specially prepared cement or adhesive material which is applied inside of the slit or opening in the rubber before the edge of the shield is inserted therein. When dry this binding is securely held to the body of the shield and holds in fixed position the folds forming the end walls of the shield, the edges of material forming the folds being incased within the rubber binding.

An elastic cord or band E is secured through the body of the shield at each end thereof, which may extend around the head or over the ears of the wearer, to hold the eye shield in place while being worn.

It will thus be seen that I have provided a combined eye shield and shade formed of a single piece of material having portions of relatively clear and relatively dark colors extending lengthwise of the shield from end to end, and out of the single piece providing the shield and shade, I have by proper folding, formed end walls giving strength and rigidity to that part of the

structure which holds the front of the body portion or shield proper out of contact with the features of the face. Also that I have provided a device of this kind having a binding adhesively secured to the body portion and firmly holding it in place without other fastening means.

I claim:

1. An eye shield comprising an elongated strip of flexible, transparent material having a recess in one edge thereof to accommodate the nose of the wearer, the end portion thereof being bent, folded and overlapped into a plurality of thicknesses to form a wall at each end of the shield extending at an angle to the body portion, means for securing said plurality of thicknesses of material in overlapped position, and means for holding the shield in position upon the face of the wearer.

2. An eye shield comprising an elongated strip of flexible, transparent material having a recess in one edge thereof to accommodate the nose of the wearer, the body portion of said shield being formed of a single piece of material having scored or weakened lines in the ends thereof, said lines converging to a point and being bent, folded and overlapped along said lines to form a reinforced wall at each end of the shield having a plurality of thicknesses of material where overlapped, means for securing said overlapping folds in fixed position and also for securing the shield upon the face of the wearer.

3. An eye shield comprising an elongated strip of flexible, transparent material having a recess in one edge thereof to accommodate the nose of the wearer, the ends of said elongated strip of material being rounded and having scored or weakened lines extending from the outer edges of the end portions and converging to a point, said material being bent, folded and overlapped upon the aforesaid lines whereby walls are formed at the ends of the shield which extend at an angle to the front of said shield, means for securing said overlapped and folded portions of the material in fixed position, and means for holding the shield in position upon the wearer's face.

4. An eye shield comprising a single elongated strip of flexible transparent material having a relatively clear and relatively dark portion therein which extends from end to end thereof whereby the vision of the wearer is unobstructed through the clear portion of said shield and the eyes are shaded by the darker or colored portion thereof, substantially as described.

5. An eye shield comprising a single elongated strip of transparent material having a relatively clear and a relatively dark portion formed therein and extending from end to end of said shield, said clear portion permitting unobstructed vision therethrough and said relatively dark portion adapted to shade the wearer's eyes, the ends of said shield having scored or weakened lines extending inwardly and converging to a point a short distance from each end, the material between said lines being bent, folded and overlapped along said lines to form reinforcing walls at the ends of the shield extending at an angle to the body portion thereof, substantially as described.

6. An eye shield comprising a single elongated piece of flexible transparent material having strips of relatively clear and relatively dark colors formed therein and extending from end to end of said shield, end walls formed in said shield by bending, folding and overlapping the material of the body portion of the shield, means for securing the plurality of folds of material together, and a flexible binding adhesively secured around the edges of said body portion, substantially as described.

7. An eye shield comprising a single elongated piece of flexible transparent material having strips or rows of relatively clear and relatively dark colors formed therein extending from end to end of said shield, end walls constructed to extend at an angle to the body of the shield and formed by bending and folding the material of the eye shield into a plurality of thicknesses, means for securing said plurality of thicknesses of material together, a flexible non-absorbent binding having a slit in one side thereof adapted to receive the edge of the shield body, and means for adhesively securing said binding to the body of the shield.

8. A combined eye shield and shade formed of a single piece of material having relatively clear and relatively dark portions extending lengthwise from end to end of said shield, walls formed in the ends of said shield by bending, folding and overlapping the material to form a plurality of thicknesses extending at an angle to the front of the shield, means for securing said thicknesses of material together, and a tubular flexible non-absorbent binding adhesively secured around the outer edge of said shield body, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ROBERT MALCOM.

Witnesses:
VIVIAN REESER,
ARTHUR B. RUSSELL.