Jan. 31, 1967 L. K. ROSENVOLD ET AL 3,300,786

EYE SHIELD BLANK AND METHOD OF ASSEMBLING SAME

Filed Dec. 10, 1964

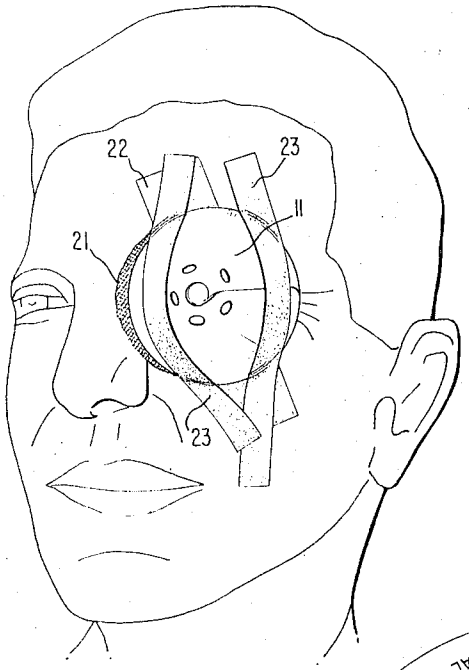
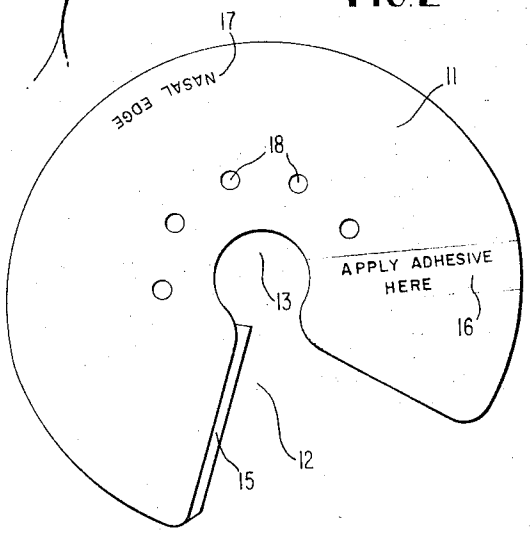


FIG.1

FIG.2



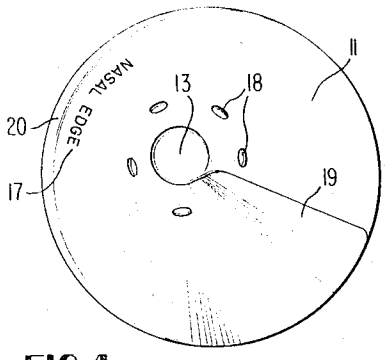


FIG.4

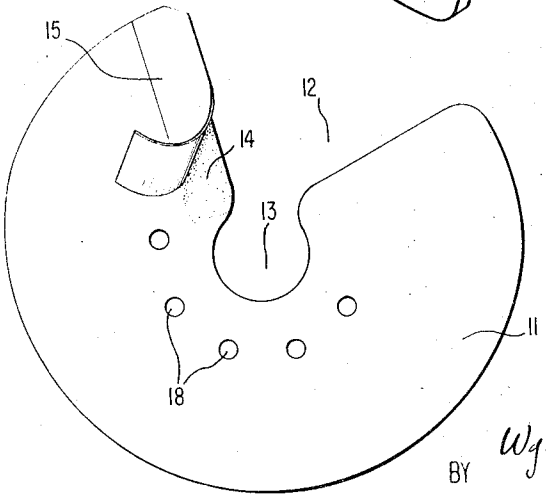


FIG.3

INVENTORS
LLOYD K. ROSENVOLD
ROBERT J. ROSENVOLD

BY Wynne & Finben,
ATTORNEYS

United States Patent Office 3,300,786 Patented Jan. 31, 1967

3,300,786
EYE SHIELD BLANK AND METHOD OF ASSEMBLING SAME

Lloyd K. Rosenvold and Robert J. Rosenvold, both of 1101 Main St., Montrose, Colo. 81401

Filed Dec. 10, 1964, Ser. No. 417,317
8 Claims. (Cl. 2—2)

This invention relates to protective devices and particularly to eye shields.

In surgery involving the eye, the eye is dressed with a conventional soft gauze and cotton eye pad held in place with surgical tape. It is important, however, to protect the eye against accidental blows or pressure by means of a rigid protective shield. The prior art has provided rigid metallic shields, usually made of aluminum, for this purpose, but they have not been totally satisfactory. For example, the metallic shields are usually made in a single size and configuration whereas the facial configuration of persons varies widely. Accordingly, such prior art shields do not fit many patients well or comfortably. Additionally such shields are not considered disposable and must be cleaned of adhesive tape and sterilized before reuse upon removal and replacement of the eye dressing.

It is an object of this invention to provide a protective eye shield which is inexpensive and disposable. Another object is to provide an eye shield which may readily be shaped to fit any facial configuration and which may be easily cut to the desired size. A further object is to provide an eye shield which is packaged and shipped in sterile, flat form and which is simple to assemble in the desired configuration. Other objects and advantages will be apparent from the detailed description following.

In the drawings:

FIG. 1 is a view of the eye shield of the invention showing it applied to a patient.

FIG. 2 is a front view of a blank from which the eye shield is formed.

FIIG. 3 is a rear view of the blank of FIG. 2.

FIG. 4 is an eye shield formed from a blank and also shows a preferred modification.

Referring to FIGURES 2 and 3, the blank is formed of heavy paper or the like which has a considerable degree of stiffness and comprises a generally circular member **11** having a wedge-shaped opening **12** and a generally circular opening **13** at the center communicating with the wedge-shaped opening. It is preferred that a slightly flattened circle or ellipse be employed, the wedge opening being on a side of the ellipse intersected by the minor axis. Along one edge of the wedge-shaped opening on the back side is provided a pressure sensitive adhesive area **14** which is covered by a protective strip **15** as is known in the art. On the front side, an adhesive application area **16** is marked to enable proper assembly for the majority of facial configurations. Identification means **17** is preferably provided to identify the nasal edge for proper orientation of the assembled shield with respect to the patient. A plurality of ventilation holes **18** are preferably provided about the center hole.

To form the eye shield of FIG. 4 it is necessary only to strip the protective cover **15** to expose the adhesive **14** and bend the blank to apply the adhesive to the indicated area **16** to form a seam **19**. The shield is thus generally cone shaped, more or less irregular, depending on the initial shape of the blank. The shape of the cone may be varied to suit various persons by forming the seam short of or beyond the indicated area **16**. The resulting shield is surprisingly rigid and is able to withstand considerable impact or pressure without collapsing.

In a preferred embodiment, as shown in FIG. 4, the nasal edge of the shield is crimped or rolled upwardly as

shown at **20** to provide a softer edge. This operation is performed during the manufacture of the blank.

In use, the shield is applied over the eye dressing **21** which is conventionally secured by surgical tape **22** and is properly oriented to position the shield edges on the nasal bone medially, on the frontal bone superiorly, on the malar bone laterally and on the superior maxillary bone inferiorly. Thus positioned, surgical tape **23** is applied to hold the shield in place.

The eye is thus protected against injury and any impact on the shield is transmitted to the facial bone structure and not to the eye. It is apparent that the shield may readily be trimmed to the desired size or configuration with surgical or other shears. The openings **13** and **18** provide adequate ventilation for the eye region.

It will be apparent that other securing means may be employed in the assembly of the shield. Thus, interlocking tab means may be provided on the blank for forming the cone, instead of the adhesive means shown.

A preferred method of packaging the blanks for forming the eye shield of this invention is individual sealed envelopes, the envelopes and the contents thereof preferably being sterilized prior to shipment. It will be apparent that plastic or other materials may be used to form the shield although it has been found that a heavy paper glazed or coated on both sides functions very well.

It has been found that a preferred eye shield may be formed from an elliptical blank having a major or transverse axis of about 4 inches and a minor or conjugate axis of 3.5 inches. The center hole **13** may be ⅝ inch in diameter and the wedge shaped opening along the minor axis edge may describe an arc of about 80°. The arc from the edge of the adhesive area **14** to the point on the blank where it is sealed together may be about 110°. A shield made from such a blank is an irregular cone defining an angle at the apex of about 90° between the nasal edge surface and the outside edge surface, the nasal surface being shorter in dimension than the outside surface. The dimensions and configurations recited are exemplary and may be varied as desired.

While the invention has been described and illustrated with reference to a particular preferred embodiment, it is understood that this is for purposes of illustration only, and it is intended to cover all further embodiments and modifications which fall within the spirit and scope of the appended claims.

We claim:

1. A blank for making an eye shield comprising a sheet of relatively stiff material of substantially circular configuration, said sheet having a circular opening substantially at its center and having a wedge-shaped opening extending from said circular opening to the periphery of said sheet, ventilation openings in said blank spaced about said circular opening, and means on said blank for securing portions of said blank adjacent the edges of said wedge-shaped opening together for forming said blank into a cone.

2. A blank for making an eye shield comprising a sheet of relatively stiff material of substantially circular configuration, said sheet having a circular opening substantially at its center and having a wedge-shaped opening extending from said circular opening to the periphery of said sheet, the peripheral edge of said blank opposite said wedge-shaped opening being rolled, and means on said blank for securing portions of said blank adjacent the edges of said wedge-shaped opening together for forming said blank into a cone.

3. A blank for making an eye shield comprising a sheet of relatively stiff material of slightly flattened circular shape, said sheet having a circular opening substantially

at its center and having a wedge-shaped opening extending from said circular opening to the periphery of one of the flattened edges of said sheet, ventilation openings in said blank spaced about said circular opening, and means on said blank for securing portions of said blank adjacent the edges of said wedge-shaped opening together for forming said blank into an irregular cone.

4. A blank for making an eye shield comprising a sheet of relatively stiff material of slightly flattened circular shape, said sheet having a circular opening substantially at its center and having a wedge-shaped opening extending from said circular opening to the periphery of one of the flattened edges of said sheet, the peripheral edge of said blank opposite said wedge-shaped opening being rolled, and means on said blank for securing portions of said blank adjacent the edges of said wedge-shaped opening together for forming said blank into an irregular cone.

5. An eye shield assembled from the blank of claim 1 by securing the edges of said wedge-shaped opening together.

6. An eye shield assembled from the blank of claim 2 by securing the edges of said wedge-shaped opening together.

7. An eye shield assembled from the blank of claim 3 by securing the edges of said wedge-shaped opening together.

8. An eye shield assembled from the blank of claim 4 by securing the edges of said wedge-shaped opening together.

References Cited by the Examiner

UNITED STATES PATENTS

915,738	3/1909	Burdick.	
1,270,640	6/1918	Markham.	
1,283,358	10/1918	Thompson	2—177 X
1,743,510	1/1930	Zickmantel	2—15
2,038,576	4/1936	Krien	229—1.5
2,325,150	7/1943	Sahlmann	2—209

JORDAN FRANKLIN, *Primary Examiner.*

RICHARD J. SCANLAN, JR., *Examiner.*