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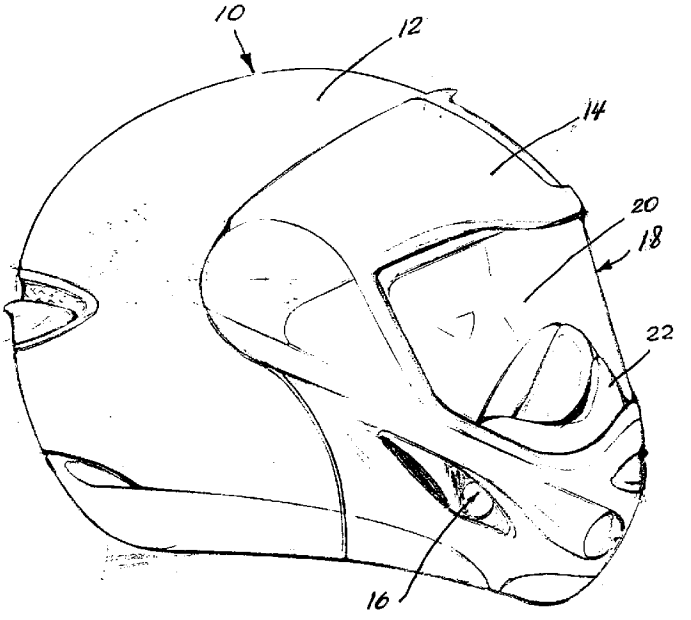
(54) **CASQUE INTEGRAL AVEC MASQUE FILTRANT**
(54) **FULL FACE HELMET WITH BREATHING MASK**



(57) A full face helmet with breathing mask which reduces the formation of water on the lens of eyeglasses of an operator or the shield of the helmet. The helmet comprises a head portion, a face portion, a see-through shield and a breathing mask. The breathing mask includes a mask body contoured to the face of the operator, a flexible tube and a binding means adapted to secure the breathing mask to the head portion, wherein the breathing mask is hermetically adapted to the face of the operator and the breath of this operator is restricted from the interior of the helmet.

ABSTRACT OF THE SPECIFICATION

A full face helmet with breathing mask which reduces the formation of water on the lens of eyeglasses of an operator or the shield of the helmet. The helmet comprises a head portion, a face portion, a see-through shield and a breathing mask. The breathing mask includes a mask body contoured to the face of the operator, a flexible tube and a binding means adapted to secure the breathing mask to the head portion, wherein the breathing mask is hermetically adapted to the face of the operator and the breath of this operator is restricted from the interior of the helmet.

FULL FACE HELMET WITH BREATHING MASK

FIELD OF THE INVENTION

The invention relates to a full face helmet with breathing mask which is particularly well suited for use when the temperature is below a certain point i.e. the point under which the breath of an operator condenses inside the full face helmet and causes the advent of water on the lens of the eyeglasses of the operator or on the shield of the full face helmet.

BACKGROUND OF THE INVENTION

A prior art full face helmet comprises a first part which protects the head of a wearer, as a conventionnal helmet; a second part, which is integrated with and forms a projection with the first part and protects the lower part of the face of the operator, more particularly the jaw; and a shield, which is situated between an upper front section of the first part and an upper section of the second part to protect the face of the wearer.

Due to its structure, the full face helmet has a small interior chamber where an operator can breath. This interior chamber is usually insulated from the atmosphere to protect the operator from cold air. At a certain temperature, air which contains saturated particles of water will condense and create

condensation. Because the temperature of the lens of the eyeglasses of the operator wearing the full face helmet or the shield of the full face helmet can reach the condensation point of the breath of the operator, water will form on the eyeglass lens or on the shield.

In order to avoid the problem of condensation, it is possible to open the shield to allow outside air to flow into the full face helmet until condensation is eliminated. This however presents a problem in that the operator may be exposed to cold air which is uncomfortable and may be dangerous to health. Furthermore, the operator has to use one hand to open the shield which may be hazardous to steering for security reasons. The shield could also involuntarily close by impact or sudden movement. Thus, there is a need to provide a device which is capable of eliminating the condensation created inside a full face helmet.

It is an object of the present invention to provide a full face helmet that overcomes or at least reduces the deficiencies associated with a prior art full face helmet.

It is another object of the present invention to provide a full face helmet comprising a breathing mask which reduces the formation of water on the lens of eyeglasses or the shield of the full face helmet.

A further object of the invention is to provide a full face

helmet including a tinted inner shield which is capable of lowering within the interior section of the full face helmet as an operator requires.

As embodied and broadly described herein, the invention seeks to provide a full face helmet comprising:

- a head portion;
- a face portion; said face portion comprising a passage through which breath of an operator may circulate and an aperture;
- a see-through shield covering said aperture;
- an inside chamber defined by the face of the operator, said head portion, said face portion and said shield;

said helmet further comprising:

- a breathing mask including a mask body contoured to the face of the operator and having a hole through which the breath may circulate;
- a connecting means between said passage and said hole and;
- a binding means adapted to secure said breathing mask to said head portion, wherein said breathing mask is hermetically adapted to the face of the operator and the breath is restricted from said inside chamber.

In a preferred embodiment of the present invention the novel full face helmet comprises a head portion adapted to protect the head of the operator, a face portion adapted to protect the forehead and the lower portion of the face of the operator; said

face portion being pivotally connected to the head portion to move from an open position to a closed position and having passages in which breath of the operator can circulate; a see-through shield adapted to protect the face of the operator; an inside chamber defined by the face of the operator, said head portion, said face portion and said shield, when said face portion is in the closed position; and a breathing mask.

The breathing mask comprises a breathing body, which surrounds the nose, mouth and chin of the operator and comprising a hole on each side adjacent the mouth; a flexible tube which connects said hole to said passage when said face portion is in the closed position; and a binding means comprising a resilient strap and snap-holders.

The binding means connects said breathing mask to said head portion, wherein said breathing mask is hermetically adapted to the face shape of the operator and the breath is restricted from entering the inside chamber.

In a variant a shield portion is pivotally connected to said face portion. The shield portion includes an upper section and a see-through shield. The upper section comprises a hollow chamber in which a tinted shield can be entirely retracted from, or extend downwardly into as the operator requires. This tinted shield can protect the eyes of the operator from the sun.

Other objects and features of the invention will become

apparent by reference to the following specification and to the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

A detailed description of the preferred embodiment of the invention is provided herein with reference to the following drawings, in which:

Figure 1 is a side elevation view of a full face helmet constructed in accordance with the invention;

Figure 2 is a partial perspective exploded view of a breathing mask constructed in accordance with the invention;

Figure 3 is a front elevational view of the breathing mask;

Figure 4 is a side elevational view of the breathing mask;

Figure 5 is a side elevational view of the full face helmet showing the full face helmet in an open position;

Figure 6 is a side elevational view of a full face helmet constructed in accordance with a variant wherein a shield portion is shown in an open position;

Figure 7 is a side elevational view of the shield portion; and

Figure 8 is a perspective view of the full face helmet wherein a tinted shield is shown in a lower position.

In the drawings, the preferred embodiment of the invention is illustrated by way of example. It is to be expressly

understood that the description and drawings are only for the purpose of illustration and as an aid to understanding, and are not intended as a definition of the limits of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, figure 1 illustrates the novel full face helmet which is generally designated by the reference number 10. The full face helmet 10 comprises a head portion 12, a face portion 14 pivotally connected to the head portion 12, and having a passage 16 through which breath of an operator can circulate, a see-through shield 18, an inside chamber 20 and a breathing mask 22.

With reference to figures 2 to 5, the breathing mask 22 comprises a mask body 24, which has a hole 26 on each side adjacent the mouth of the operator. A flexible tube 28 has an inside end 30 and an exterior end 32, said inside end 30 being adapted to be engaged in the hole 26, said exterior end 32 being adapted to be hermetically connected with the passage 16 and said flexible tube 28 is adapted to provide an adequate circulation of the breath of the operator.

A strap-snap binding 34 is also illustrated, said strap-snap binding comprises a snap-holder 36, a snap 38, a resilient strap 40, a tab 42 and a spout 44. Said snap-holder 36 has a hole 46 adapted to engage with the exterior end 32, an interior section

48 in which the strap 40 can pass through, and a tab 50, said snap 38 being adapted to be affixed to the head portion 12 and said spout 44 being adapted to hold the strap 40 and to be affixed to the mask body 24. The strap 40 is adapted to allow an adjustment of its length similar to the length of the flexible tube 28 in order that the exterior end 32 is hermetically connected with the passage 16. Figure 5 shows the face portion 14 in an open position.

Referring now to figure 6, a shield portion 52 is pivotally mounted to the face portion 14. Figure 7 illustrates a side elevational view of the shield portion 52 which comprises a see-through shield 54 and an upper section 56. A tinted shield 58 is pivotally mounted on the shield portion 52. The upper section 56 has a chamber in which the tinted shield 58 is adapted to raise or lower with a lever 60 as the operator requires. Figure 8 shows the tinted shield 58 in a lower position. The upper section 56 comprises a slot 62 in which the lever 60 can move.

The above description of the preferred embodiment should not be interpreted in any limiting manner since variations and refinements are possible which are within the spirit and scope of the present invention. The scope of the invention is defined in the appended claims.

THE EMBODIMENTS OF THE INVENTION FOR WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A full face helmet comprising:

- a head portion;
- a face portion; said face portion comprising a passage through which breath of an operator may circulate and an aperture;
- a see-through shield covering said aperture;
- an inside chamber defined by the face of the operator, said head portion, said face portion and said shield;

said helmet further comprising:

- a breathing mask including a mask body contoured to the face of the operator and having a hole through which the breath may circulate;
- a connecting means between said passage and said hole and;
- a binding means adapted to secure said breathing mask to said head portion, wherein said breathing mask is hermetically adapted to the face of the operator and the breath is restricted from said inside chamber.

2. The full face helmet of claim 1, wherein said face portion being articulated in relation to said head portion from an open position to a closed position and wherein said inside chamber being defined by the face of the operator, said head portion,

said face portion and said shield when said face portion is in the closed position.

3. The full face helmet of claim 1 or 2, wherein said connecting means being a flexible tube.

4. A full face helmet comprising:

- a head portion;
- a face portion; said face portion comprising a passage through which breath of an operator may circulate and an aperture;
- a shield portion covering said aperture; said shield portion comprising an upper section and a see-through shield;
- an inside chamber defined by the face of the operator, said head portion, said face portion and said shield;

said helmet further comprising:

- a breathing mask including a mask body contoured to the face of the operator and having a hole through which the breath may circulate;
- a connecting means between said passage and said hole and;
- a binding means adapted to secure said breathing mask to said head portion, wherein said breathing mask is hermetically adapted to the face of the operator and the breath is restricted from said inside chamber.

5. The full face helmet of claim 4, wherein said face portion being articulated in relation to said head portion from an open position to a closed position and wherein said inside chamber being defined by the face of the operator, said head portion, said face portion and said shield when said face portion is in the closed position.

6. The full face helmet of claim 4 or 5, wherein said shield portion being articulated in relation to said face portion from an open position to a closed position.

7. The full face helmet of any one of claim 4 to 6, wherein said upper section includes a chamber in which a tinted shield is adapted to raise or lower as the operator requires.

8. The full face helmet of any one of claims 4 or 7, wherein said connecting means being a flexible tube.

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PATENT AGENTS

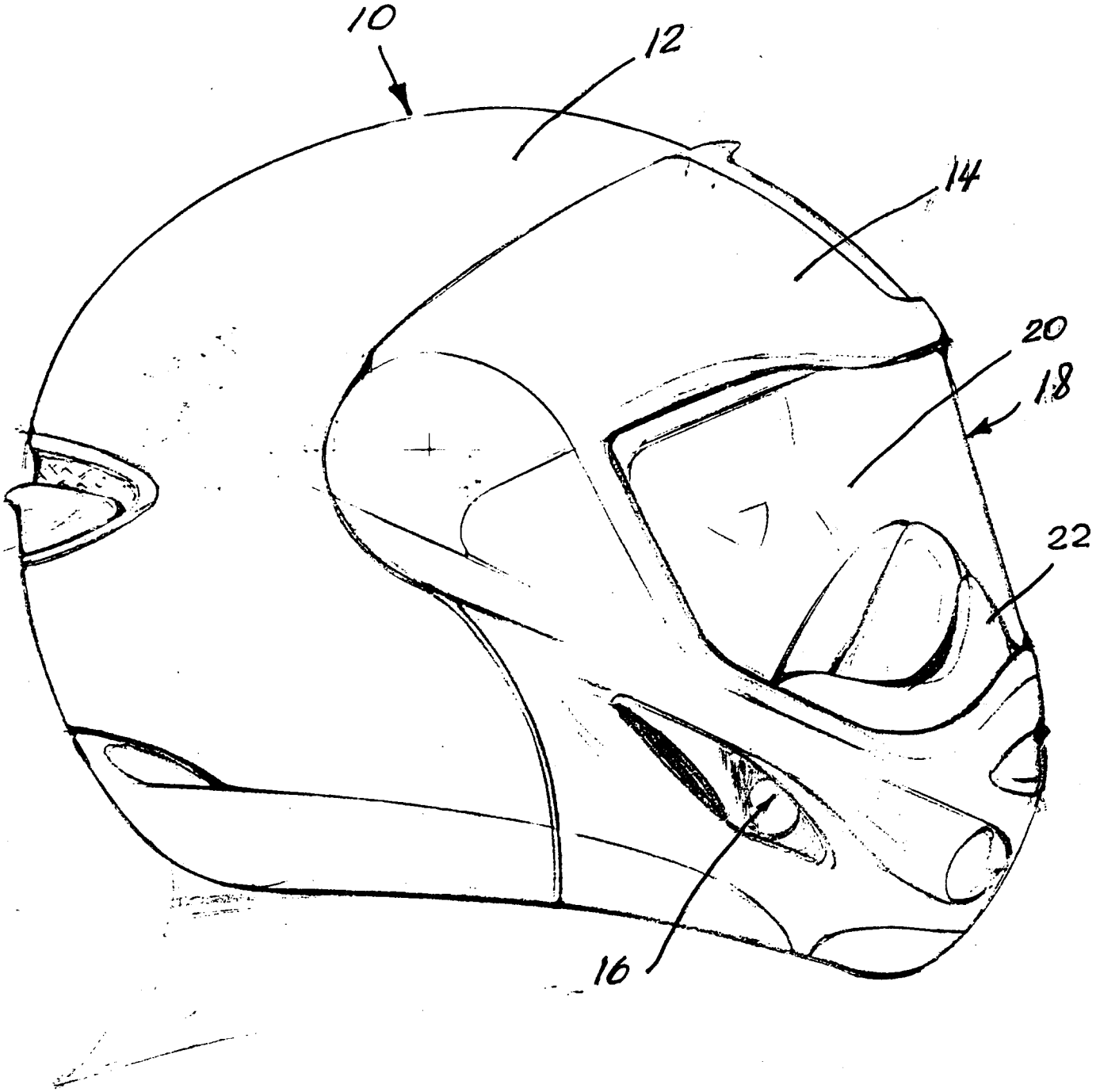


FIG. 1

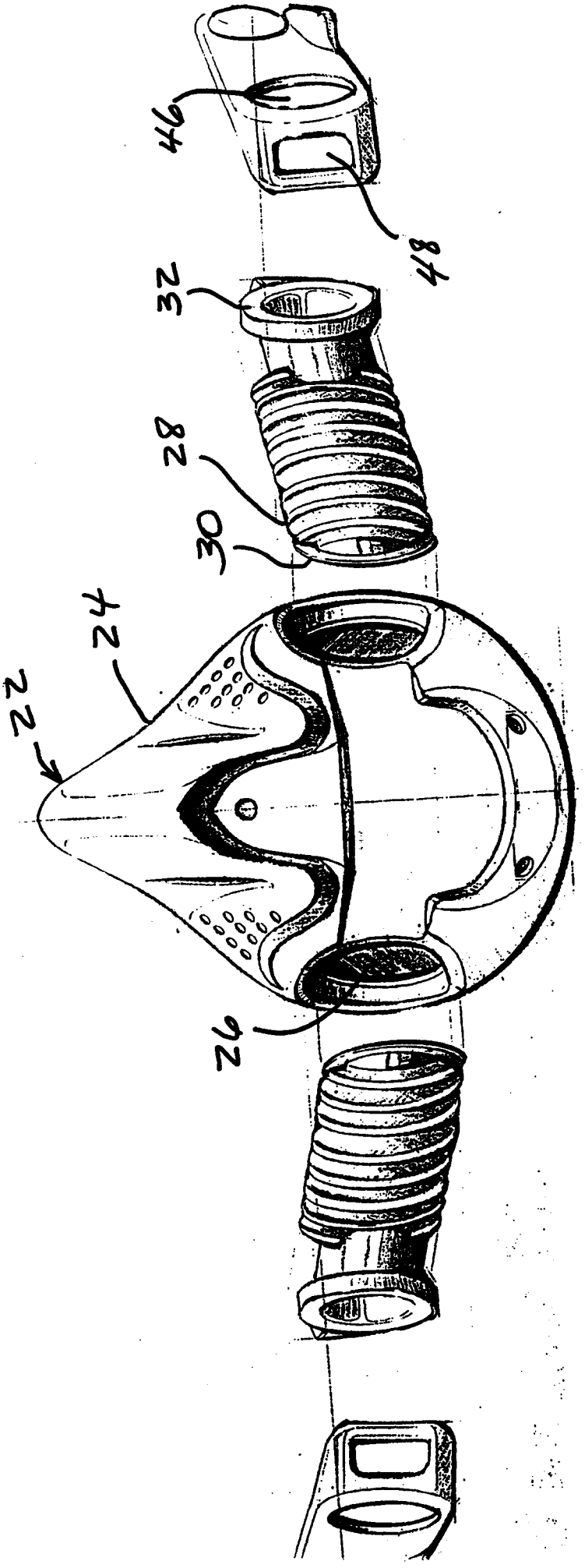


FIG. 2.

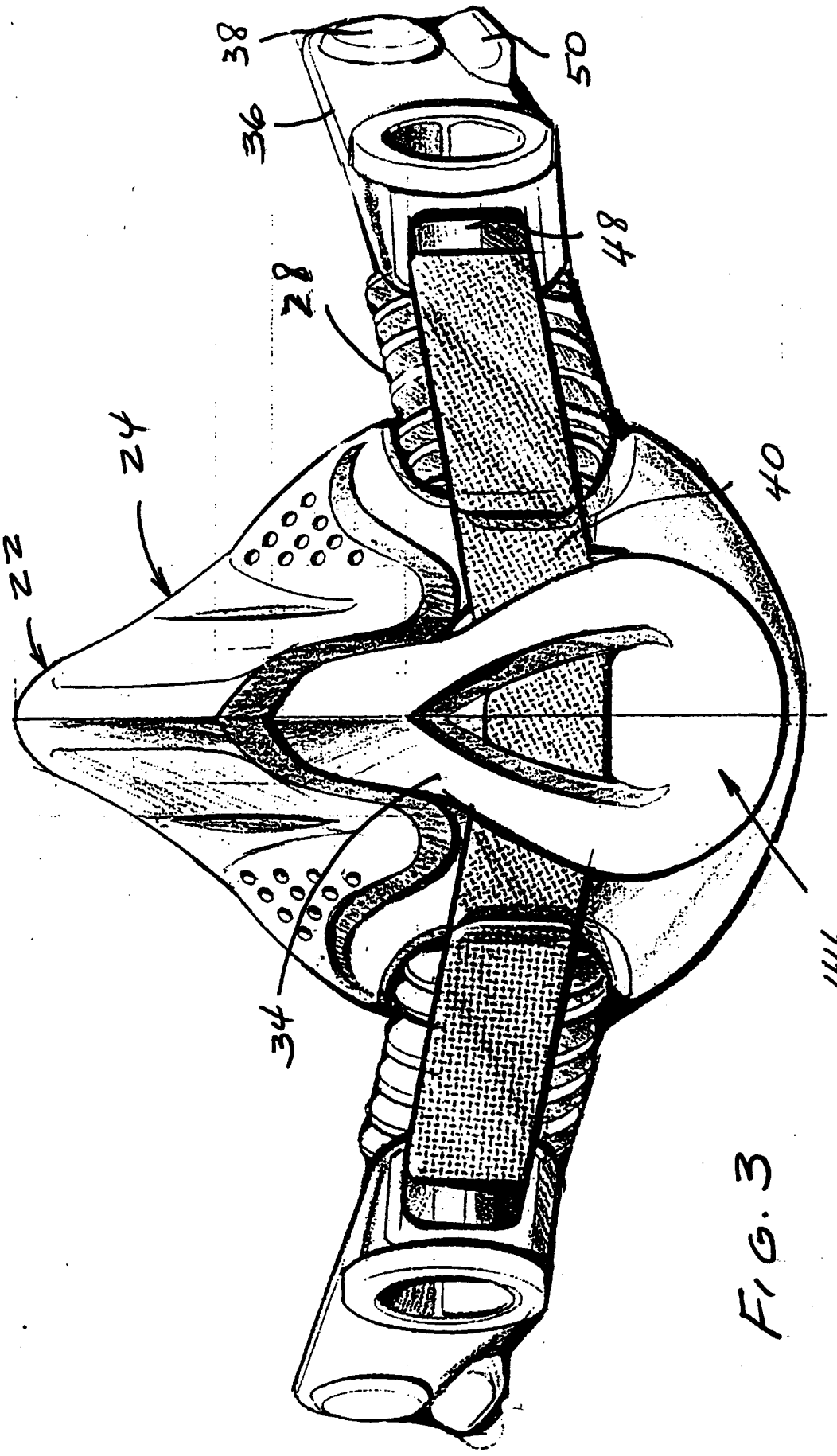


FIG. 3

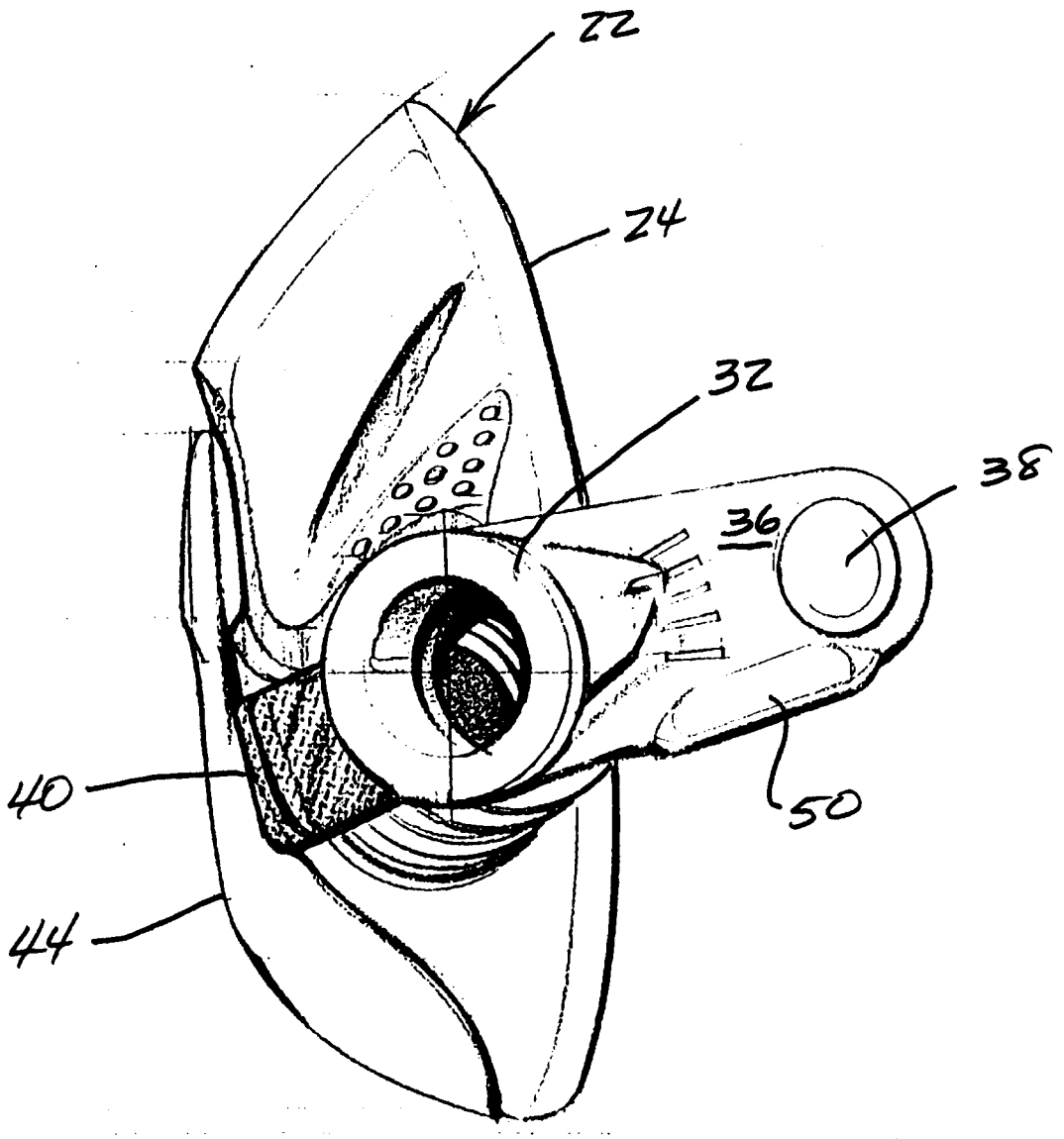


FIG. 4

FIG. 5

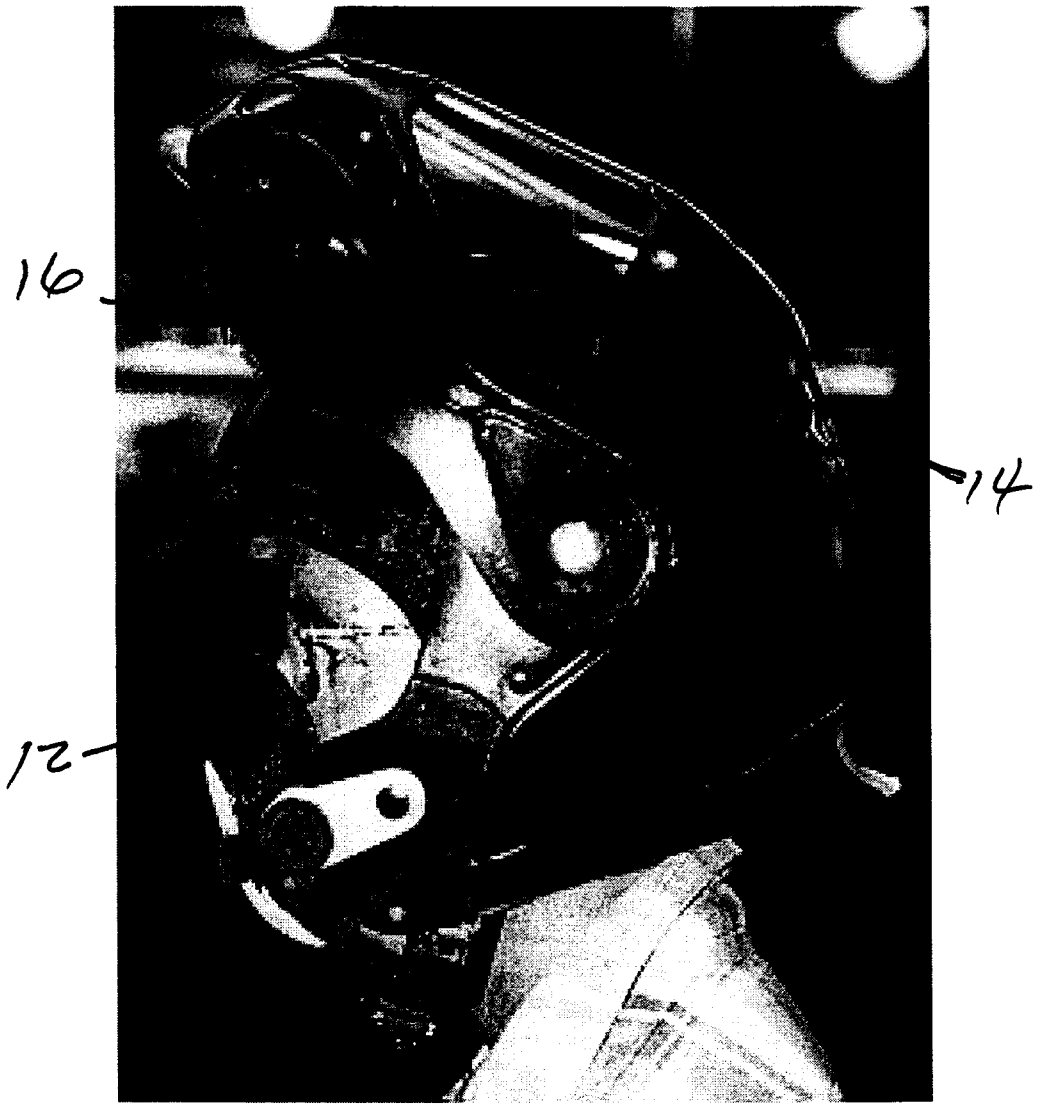


FIG. 6

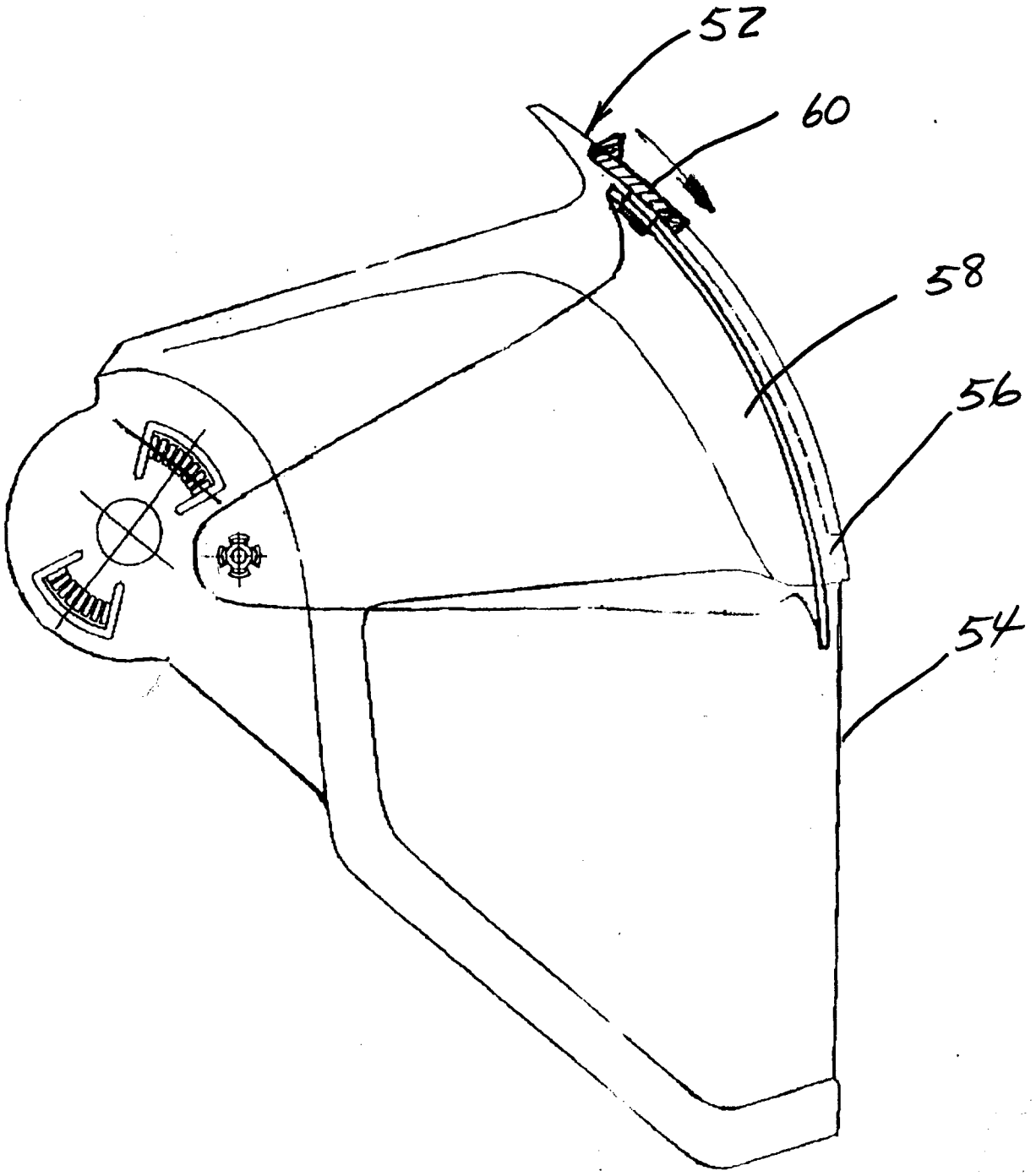
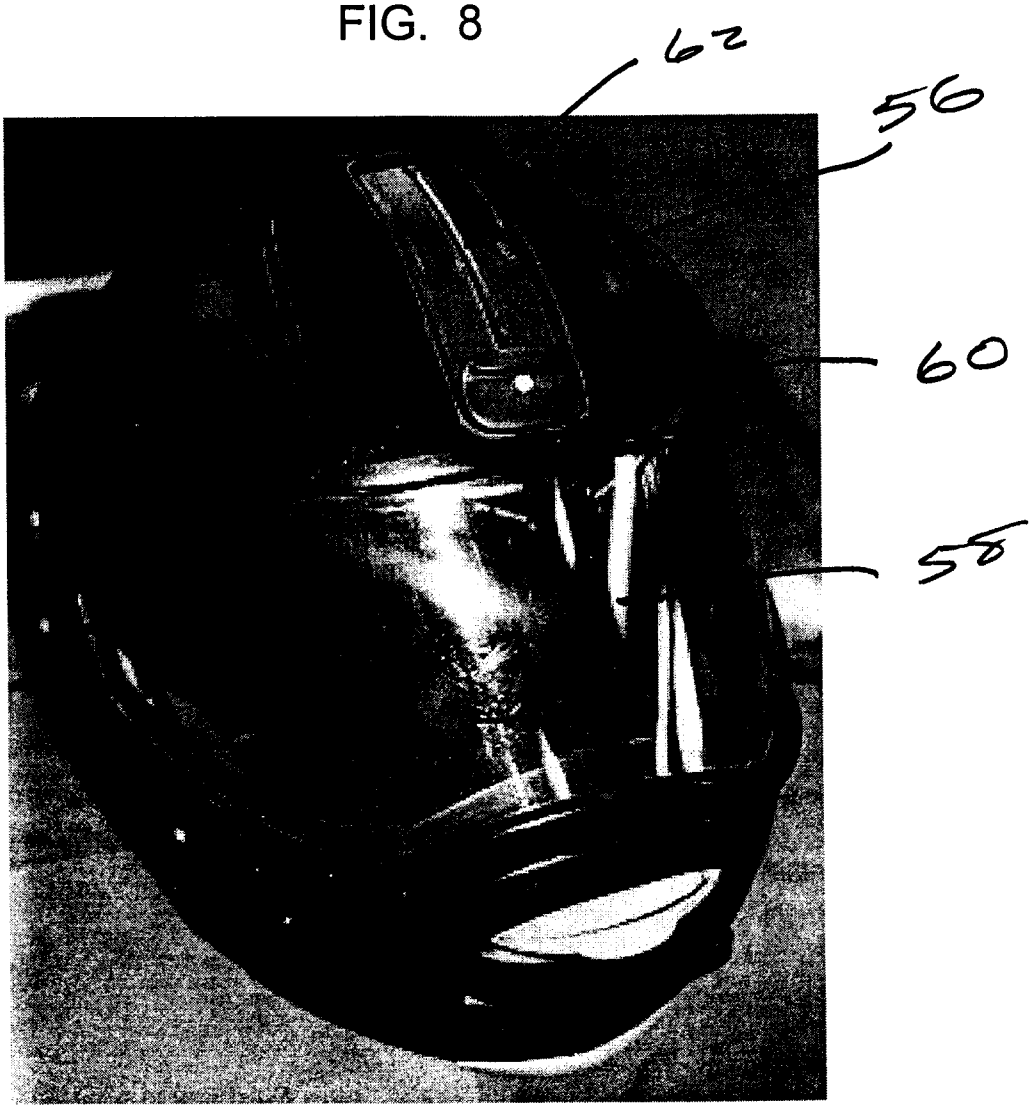
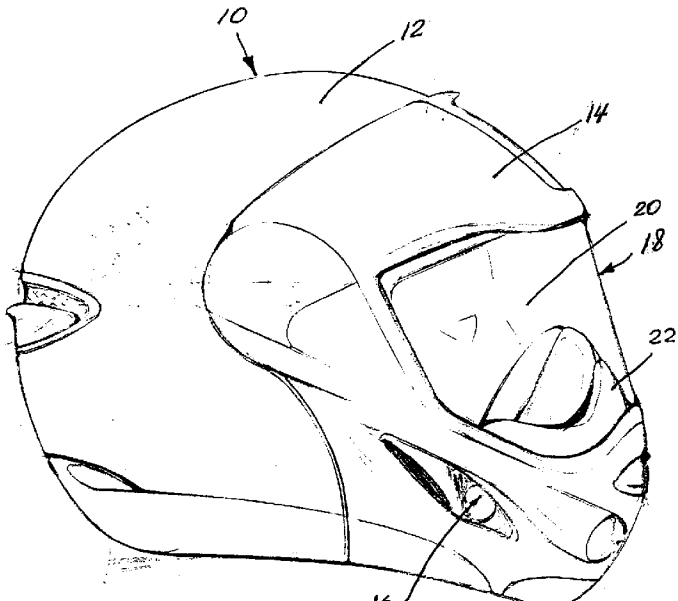


FIG. 7

FIG. 8

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