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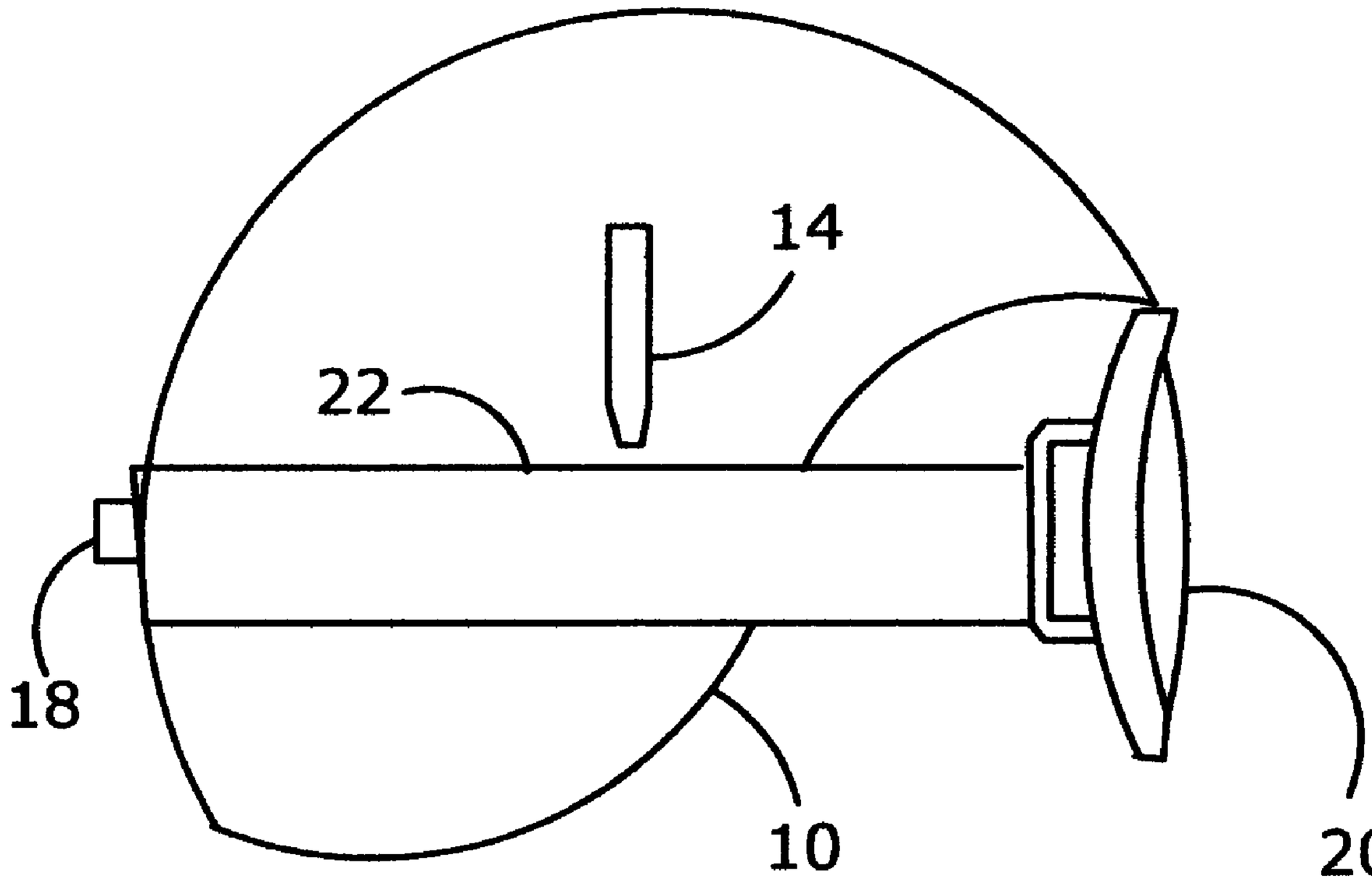
(54) Titre : CASQUE DE PRATIQUE DES SPORTS COMPORTANT DES DISPOSITIFS DE RETENUE POUR LUNETTES PROTECTRICES

(54) Title: SPORTS HELMET WITH GOGGLE STRAP RETAINERS



(57) Abrégé/Abstract:
A sports helmet having a pair of strap retainers affixed thereto is provided for use with goggles held on a wearer's head by a strap. One strap retainer is affixed on each side of the helmet at a height above the goggle strap when the goggles are over the eyes of the wearer. The strap retainers are formed with an inner arm affixed to the side of the helmet and an outer arm spaced therefrom. When the wearer moves the goggles upward from the eyes to rest on the front rim of the helmet, the strap slides along the helmet and is entrapped in each strap retainer to prevent the goggles from sliding over the top of the helmet to an inconvenient position.

ABSTRACT:

A sports helmet having a pair of strap retainers affixed thereto is provided for use with goggles held on a wearer's head by a strap. One strap retainer is affixed on each side of the helmet at a height above the goggle strap when the goggles are over the eyes of the wearer. The strap retainers are formed with an inner arm affixed to the side of the helmet and an outer arm spaced therefrom. When the wearer moves the goggles upward from the eyes to rest on the front rim of the helmet, the strap slides along the helmet and is entrapped in each strap retainer to prevent the goggles from sliding over the top of the helmet to an inconvenient position.

SPORTS HELMET WITH GOGGLE STRAP RETAINERS

Inventor: ROBERT SCOTT HIGGINS

FIELD OF THE INVENTION:

[0001] The present invention relates to the field of protective sports apparel and more particularly to helmets typically used with goggles.

BACKGROUND OF THE INVENTION:

[0002] A helmet protects the head of the wearer from serious head injury. In sports, the use of helmets has expanded from motorcycle riders to bicycle riders to roller bladers to skiers and snow boarders. When skiing or snow boarding, goggles provide an additional form of protection, both from eye injury and from the cold air. Ski goggles are normally held in place with an elastic strap that goes around the back of the wearer's head on the outside of the helmet. The strap easily slides along the smooth helmet surface, and the goggles may slip off and be lost when raised from their protective position over the eyes of the wearer to an idle position on top of the helmet. To prevent loss of goggles, some helmets have an attaching strap anchor, such as a snap fastener or the like, at the rear to attach the goggle strap to the helmet. With the anchor holding the back of the strap, goggles placed in this idle position may slide up and over the top of the helmet, but are not lost. However, the user must reach behind the helmet and re-set the goggles when needed for skiing or snow boarding.

[0003] U.S. Patent No. 4,764,989 teaches a Safety Goggles Retainer For Hard Hat. This patent provides a hook mounted on each side of a hard hat or helmet above the position of the wearer's ear. The wearer loops the goggle strap

through the first hook, across the front of the helmet and through the second hook. The elasticity of the goggle strap allows the wearer to move the goggles from a position over the eyes to a position on the helmet front. This hook system lacks the simplicity of goggle movement provided by the present invention disclosed below.

U.S. Patent No: 6,694,530 teaches a Goggle Strap Alignment And Fastening Guide For Motorcycle Type Helmet in which a pair of strap guides are affixed to either side of a helmet adjacent the ear of the wearer. The goggle strap is passed through the guides when the goggles are in position over the eyes of the wearer, thus assuring proper alignment. These guides prevent the goggle strap from moving up or down. Raising the goggles above the wearer's eyes requires stretching the goggle strap without disengaging the strap guides. This patented invention is intended to hold the goggles in operative position and substantially increases the difficulty of moving the goggles to their inoperative position.

SUMMARY OF THE INVENTION:

[0004] The present invention provides a sports helmet with a pair of goggle strap retainers allowing the goggles to be easily moved between an operative position over the eyes of the wearer to an inoperative position on the helmet above the wearer's eyes while preventing the goggles from sliding backward over the top of the helmet. A strap retainer is affixed to each side of the helmet in an orientation with the top closed and the bottom open to receive a goggle strap. The retainers are preferably affixed adjacent to the ear of the wearer at a height on the helmet slightly above the top of the goggle strap when the goggles are positioned over the wearer's eyes. When the wearer moves the goggles upward to an inoperative position on the helmet above the eyes, the goggle strap is trapped in the retainers to assure that the goggles will not slide over the top of the helmet.

BRIEF DESCRIPTION OF THE DRAWINGS:

[0005] The present invention is best understood in conjunction with the accompanying drawing figures in which like elements are identified by similar reference numerals and wherein:

Figure 1 is a side elevation view of the sports helmet with goggle strap retainers of the invention showing the goggles in operative position to protect the eyes of the wearer.

Figure 2 is a side elevation view of the sports helmet with goggle strap retainers showing the goggles in the inoperative position above the front rim of the helmet.

Figure 3 is a segmental front elevation view of the sports helmet with goggle strap retainers showing the goggle strap when the goggles are in the operative position of Figure 1.

Figure 4 is a segmental front elevation view of the sports helmet with goggle strap retainer showing the goggle strap engaged when the goggles are in the inoperative position of Figure 2.

Figure 5A is a side perspective view of a goggle strap retainer of the invention in a first embodiment.

Figure 5B is a front elevation view of the goggle strap retainer of Figure 5A.

Figure 6 is a front elevation view of a goggle strap retainer according to a second embodiment with a fastener for affixing to the sports helmet.

Figure 7 is a front elevation view of a goggle strap retainer according to a third embodiment with a segment of the sports helmet showing a hole for receiving a spring anchor of the retainer.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT:

[0006] Referring now to Figure 1, a sports helmet 10 such as would be used for protecting the head of a player of sports, e.g. skiing, is illustrated according to the present invention with a strap retainer 14 affixed to an outer side surface

thereof. A similar strap retainer 14 is affixed to the opposite side of helmet 10. A pair of goggles 20, as are commonly used in conjunction with helmet 10, are held in place over the eyes of the player by an elastic strap 22. Goggles 20 protect the eyes of the wearer from cold air, precipitation and objects in the air. Many currently available helmets are manufactured with a strap anchor 18 that holds the rear portion of goggle strap 22 to helmet 10. While strap anchor 22 prevents goggles 20 from being lost when moved up over the top of helmet 10 away from the wearer's eyes, strap anchor 22 nonetheless allows goggles 20 to move to a position behind helmet 10 that is inconvenient to the wearer. Strap retainers 14 are positioned on both sides of helmet 10 incrementally higher than a line defined by the upper edge of strap 22. In this position, strap retainers 14 do not interfere with the normal use of goggles 20, and goggle strap 22 naturally resides in contact with the side of helmet 10 slightly below the bottom of strap retainers 14.

[0007] Referring now to Figure 2, sports helmet 10 is shown in side elevation view with goggles 20 moved to a position above the front rim of helmet 10 to be off the eyes of the wearer. This upward movement of goggles 20 is frequently done by skiers and other sports participants to improve vision. Whereas helmet 10 is formed of a smooth plastic resin, when worn with prior known helmets, goggles 20 would tend to slide up and over the top and reside in an inconvenient position behind the helmet. According to the present invention, as goggles 20 are raised, goggle strap 22 is entrapped on each side of helmet 10 by a strap retainer 14. Goggles 20 will remain in the position placed by the wearer, thus eliminating the inconvenience of sliding up and over the top of helmet 10.

[0008] Referring now to Figures 3 and 4, a partial front elevation view is shown of sports helmet 10 with strap retainer 14 affixed thereto. In Figure 3, goggle strap 22 is in a level orientation as that illustrated in Figure 1 with goggles 20 over the eyes of the wearer. Strap retainer 14, located incrementally above strap 22, is empty. In Figure 4, goggle strap 22 is in an upwardly angled

orientation as that illustrated in Figure 2 with goggles 20 placed above the front rim of helmet 10. Goggle strap 22, being typically elastic, clings to the curve of helmet 10 as goggles 20 are raised, causing goggle strap 22 to enter and be held by strap retainer 14. To further encourage goggle strap 22 to enter strap retainer 14, the outer arm of strap retainer 14 is formed with a ramp 32 that increases the gap at the entry portion of strap retainer 14.

[0009] Referring now to Figures 5A and 5B, the preferred embodiment of a strap retainer 14 is shown in front perspective view and in side elevation view, respectively. As seen, strap retainer 14 includes an outer arm 30, an inner arm 34 residing substantially parallel to outer arm 30, and a bridge 36 extending perpendicularly therebetween. Ramp 32 is formed by the distal tip of outer arm 30 being angled away from inner arm 34, thus providing an enlarged entry 40 to receive goggle strap 22 (see Figures 1 - 4). A securement layer 38 is provided on the exposed surface of inner arm 34, preferably in the form of a pressure sensitive adhesive, especially when strap retainer 14 is affixed to a helmet by the user. Alternatively, strap retainers 14 may be affixed to the helmet by ultrasonic bonding. In addition, strap retainers 14 may be integrally molded with the helmet.

[0010] Referring now to Figure 6, a first alternate form of a strap retainer 14a is illustrated in side elevation view. Strap retainer 14a is configured for affixing to a helmet by means of a fastener 46, e.g. a rivet. Strap retainer 14a is formed with a downwardly directed outer arm 30a, terminating in a ramp 32a. A bridge 36a is connected in perpendicular orientation to the upper end of outer arm 32a, and a flange 44 extends upwardly from the opposite end of bridge 36a substantially parallel to outer arm 30a. Flange 44 is formed with a hole sized to snugly pass rivet 46 which engages the helmet to hold strap retainer 14a firmly thereto.

[0011] Referring now to Figure 7, a second alternate form of a strap retainer 14b is shown in side elevation view adjacent to a portion of the wall of helmet 10. Strap retainer 14b has an outer arm 30b with a ramp 32b, an inner arm 34b parallel to and in the same direction as outer arm 30b and a connecting bridge 36b. A spring anchor 50 is integrally formed in perpendicular orientation on inner arm 34b. Spring anchor 50 is sized and shaped to snugly enter a hole 52 formed in helmet 10. Spring anchor 50 and hole 52 are preferably not round in order to prevent rotation of strap retainer 14b.

[0012] While the description above discloses preferred embodiments of the present invention, it is contemplated that numerous variations and modifications of the invention are possible and are considered to be within the scope of the claims that follow.

CLAIMS:

What is claimed is:

1. A sports helmet having a pair of goggle strap retainers, one of the goggle strap retainers being affixed to each side of the sports helmet at a position incrementally above a goggle strap when a pair of goggles resides over the eyes of the wearer.

2. The sports helmet described in claim 1, wherein each of the goggle strap retainers comprises a first arm affixed to an outer surface of the sports helmet, a second arm oriented substantially parallel to the first arm and a bridge connecting therebetween such that the goggle strap is engaged in the goggle strap retainers when the pair of goggles is moved upward from the eyes of the wearer.

3. The sports helmet described in claim 2, wherein the second arm of each of the goggle strap retainers is formed with an outwardly angled ramp portion configured to enlarge the size of an opening into which the goggle strap enters.

4. The sports helmet described in claim 1, wherein each of the goggle strap retainers comprises an outer arm, a flange oriented substantially parallel to the outer arm and a bridge connecting therebetween, the flange being formed with a hole for affixing the goggle strap retainers to an outer surface of the sports helmet.

5. The sports helmet described in claim 4, wherein the outer arm of each of the goggle strap retainers is formed with an outwardly angled ramp portion configured to enlarge the size of the opening into which the goggle strap enters.

6. The sports helmet described in claim 1, wherein each of the goggle strap retainers comprises an outer arm, an inner arm oriented substantially parallel to the outer arm and a bridge connecting therebetween, further comprising a spring anchor extending in perpendicular relation from the inner arm and whereas the

sports helmet is formed with a hole in each side thereof configured for receiving the spring anchor, the holes and the spring anchors not being round in cross sectional shape.

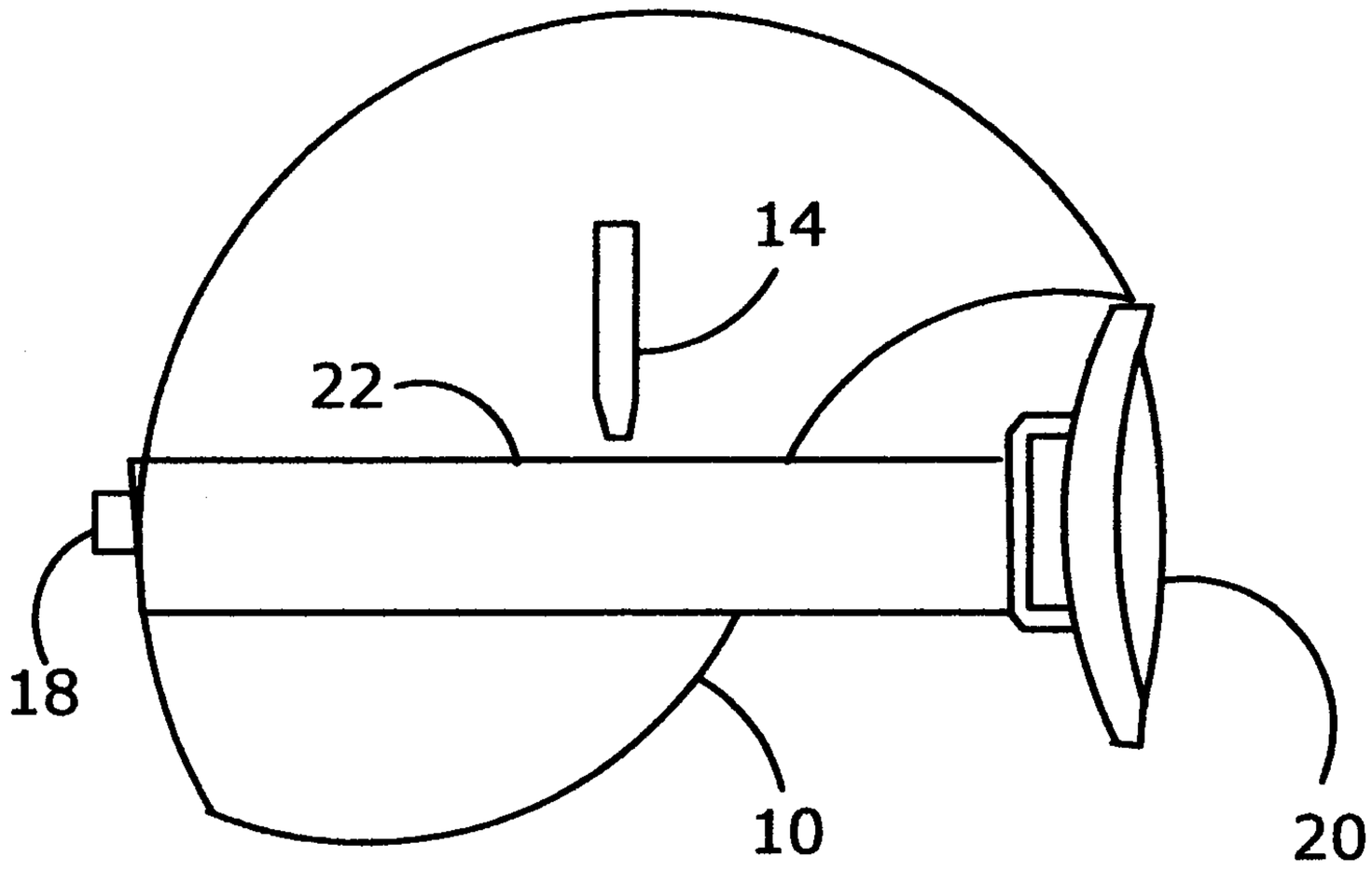


Fig. 1

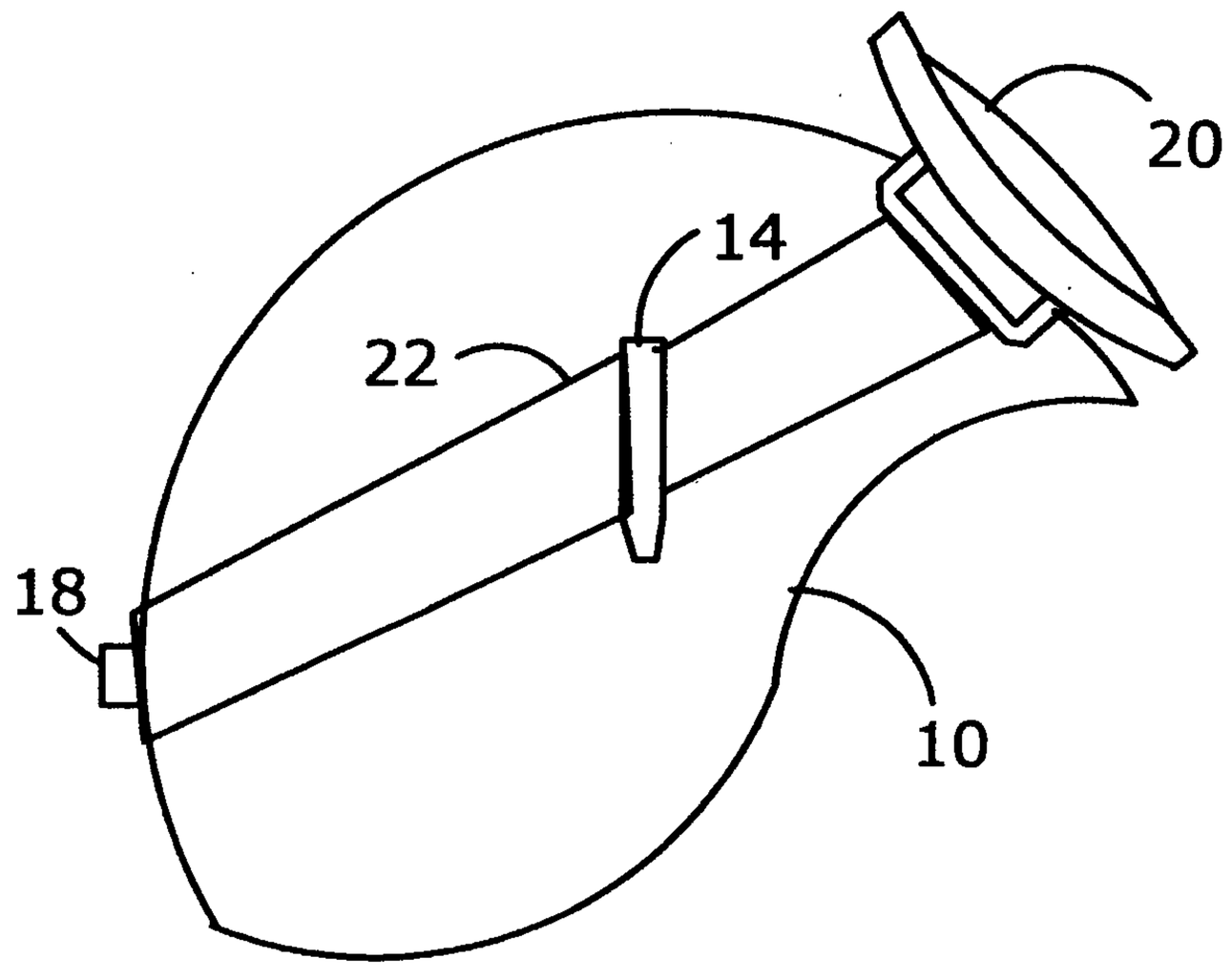


Fig. 2

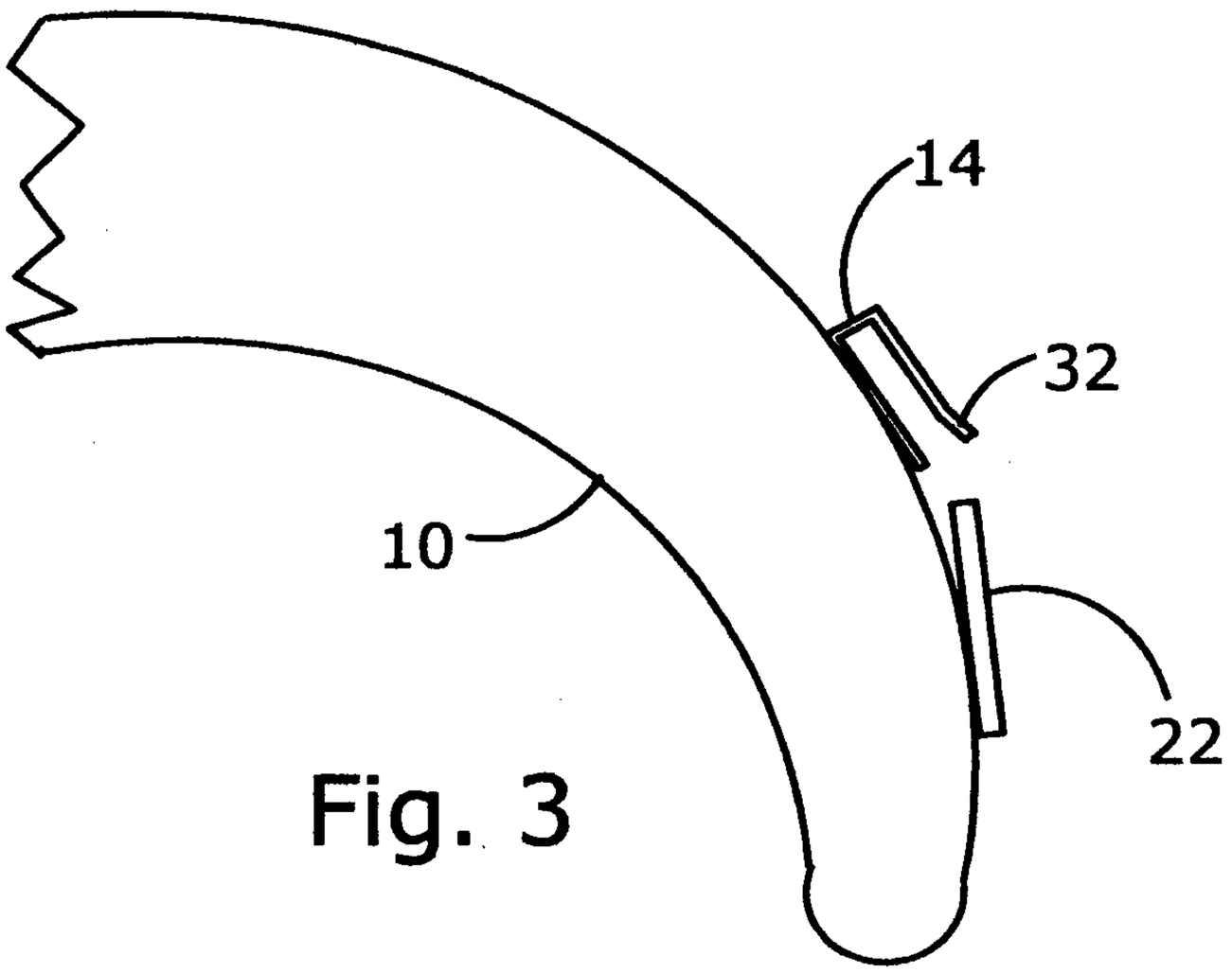


Fig. 3

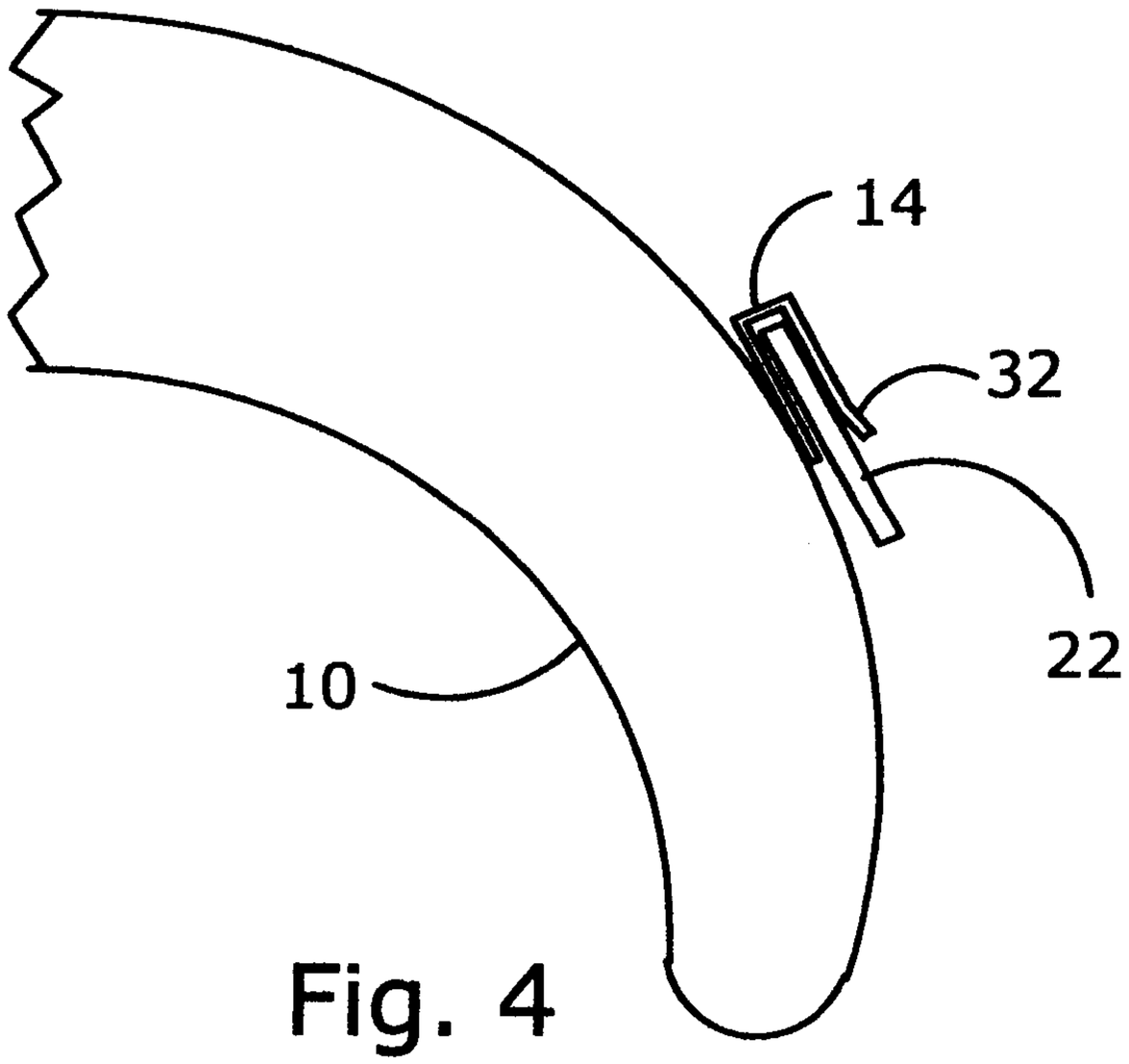


Fig. 4

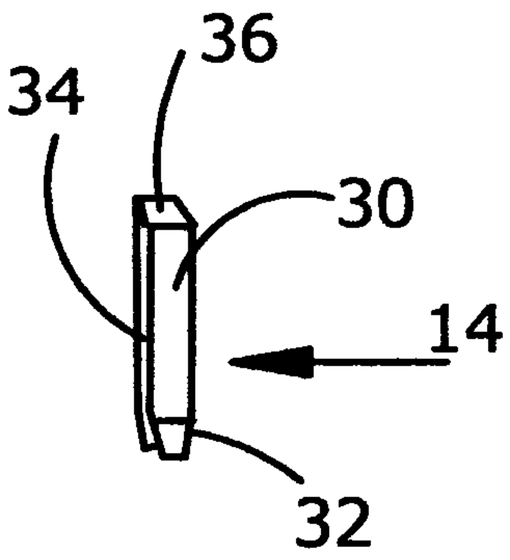


Fig. 5A

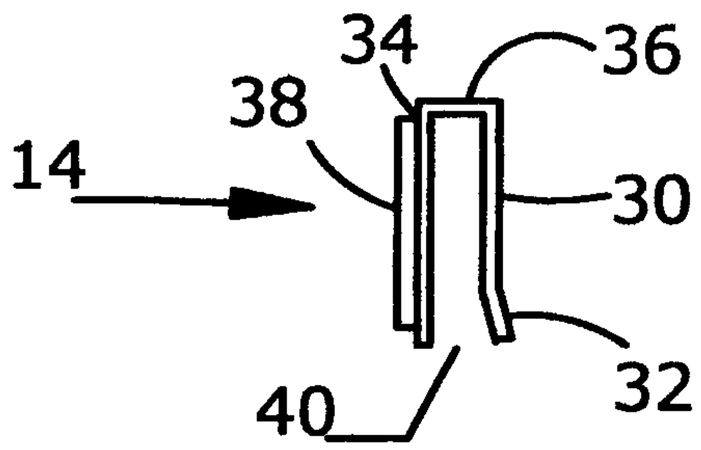


Fig. 5B

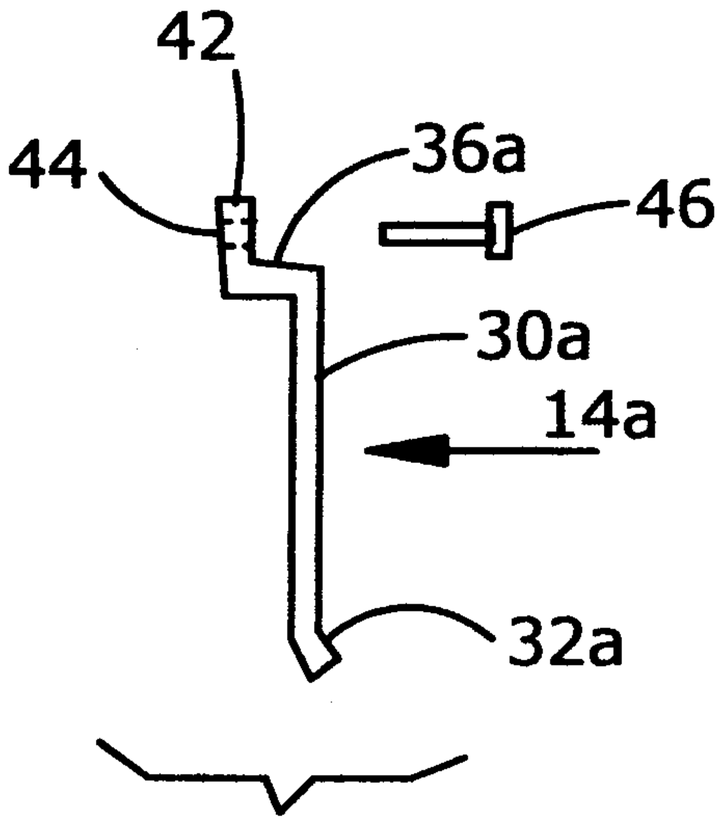


Fig. 6

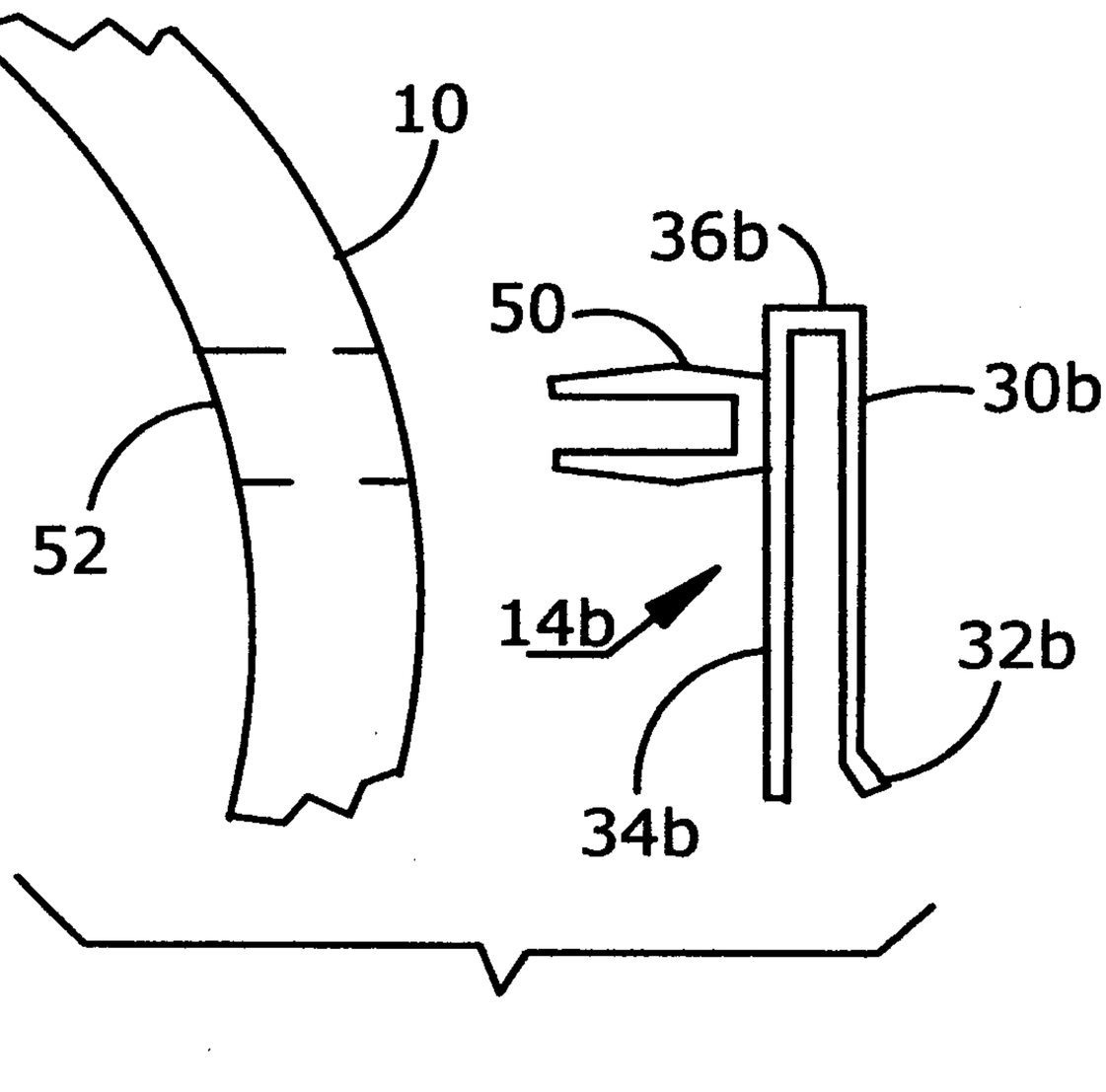
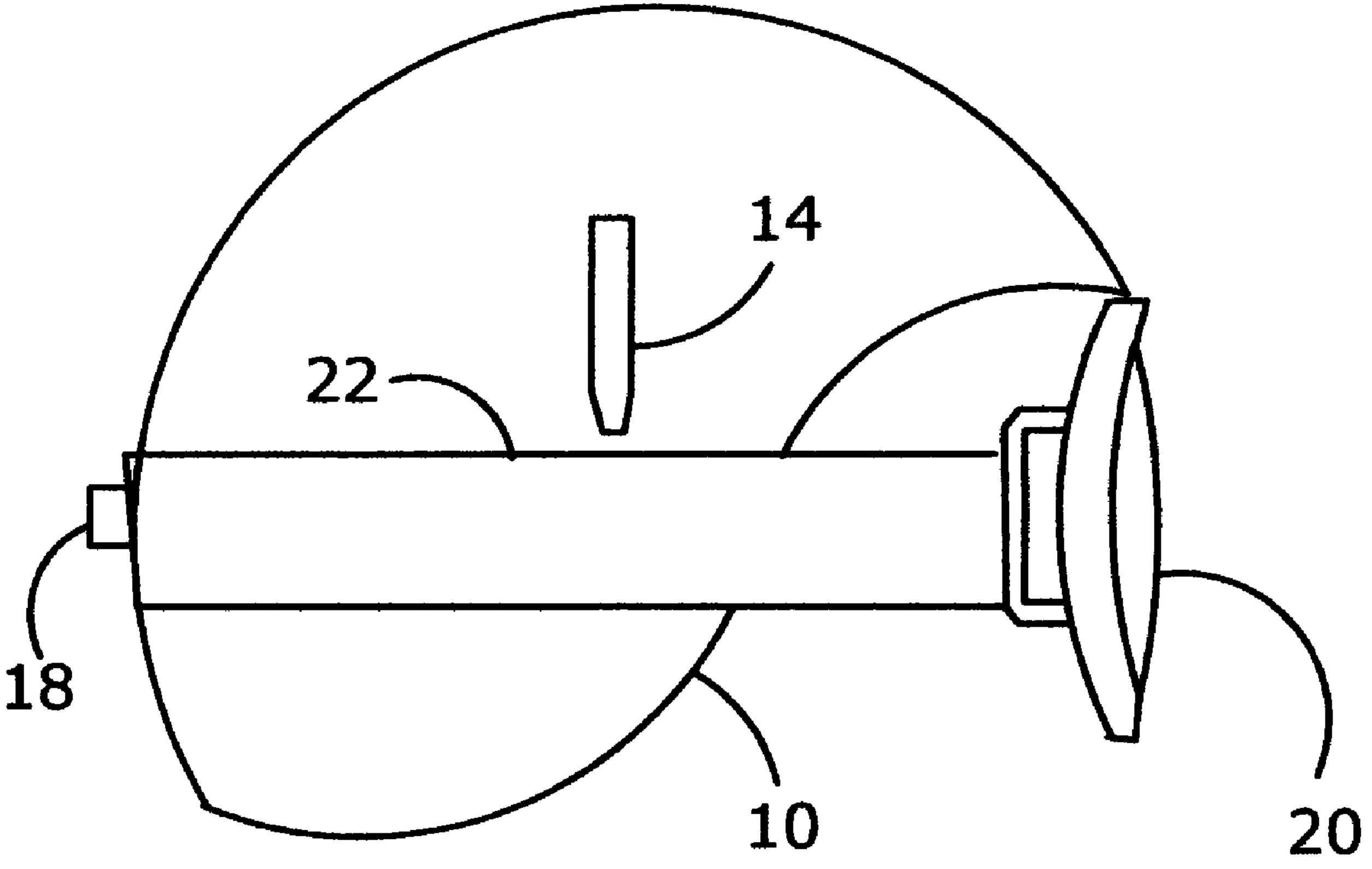


Fig. 7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