Feb. 28, 1950 H. PHILLIPS 2,498,768

PELORUSES HAVING ADJUSTABLE PRISMS AND REFLECTION SHIELDS

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Fig. 1

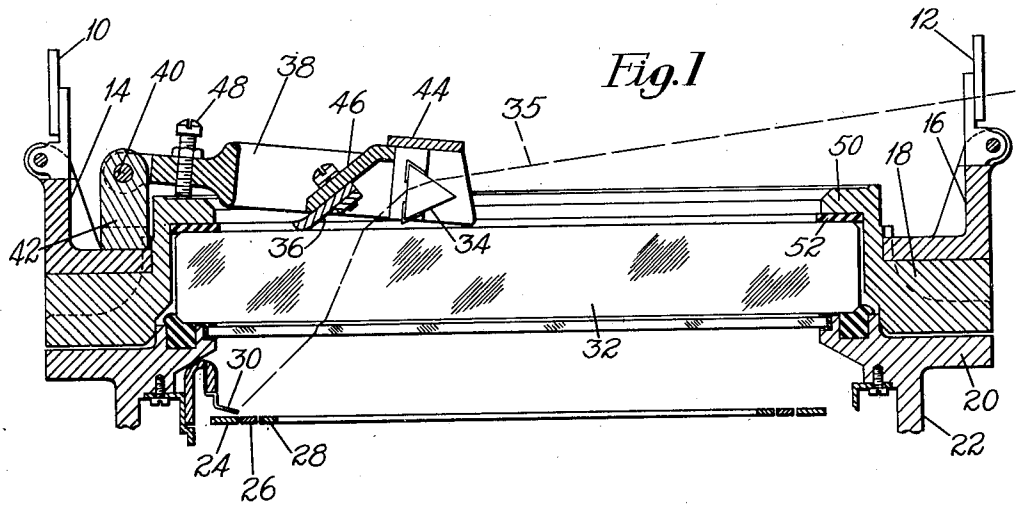


Fig. 2

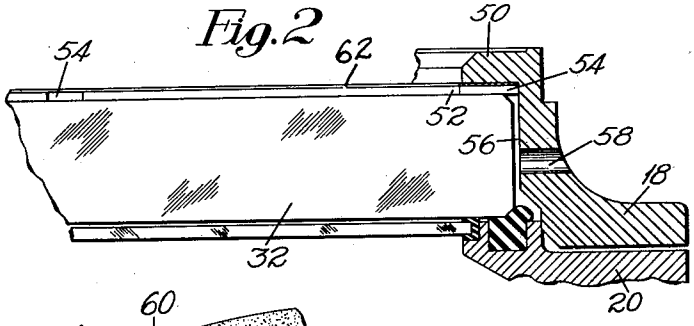
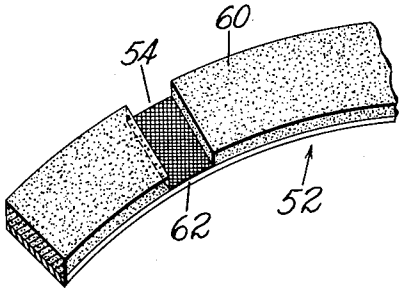


Fig. 3



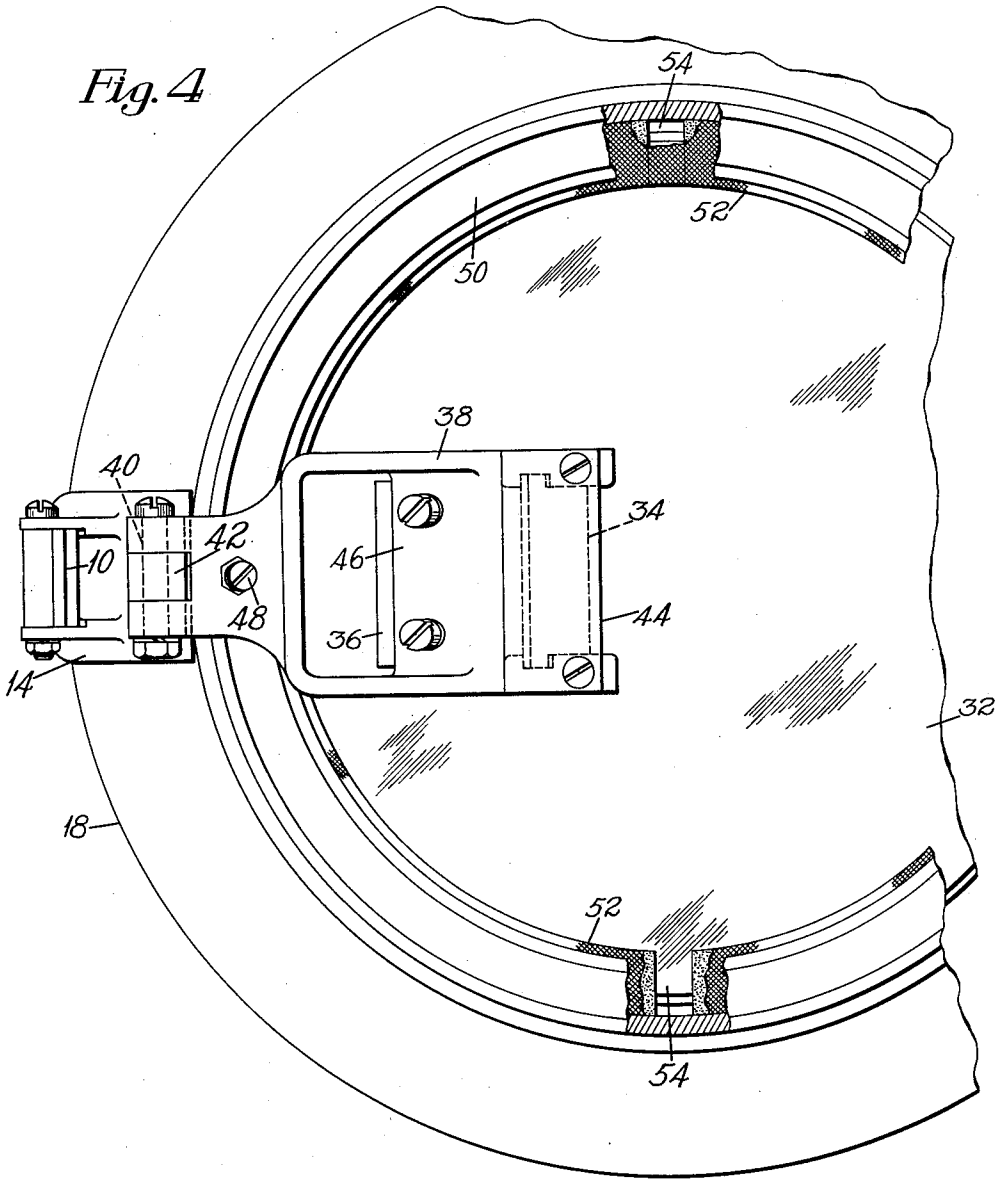
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Fig. 4



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PELORUS HAVING ADJUSTABLE PRISM AND REFLECTION SHIELD

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Application September 16, 1946, Serial No. 697,275

1 Claim. (Cl. 88—2.3)

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This invention relates to peloruses, and is herein illustrated in its application to peloruses of a type particularly suited for use on the deck of a submarine.

One type of pelorus commonly used on the decks of submarines comprises a conventional sighting means mounted on a rotor which provides a watertight closure for bearing indicating means, the upper surface or cover of said closure being a transparent panel through which the indicating means is visible. Under certain circumstances the reading of the indicating means through the transparent panel is made extremely difficult by the reflection of sunlight from the surface of the panel into the eyes of the observer.

In order to facilitate the reading of the indicating means under such circumstances the present invention contemplates the provision in a pelorus of the type above described having forward and rear sighting members, of a shield for intercepting light rays, said shield in the illustrated pelorus being associated with a prism through which an observer reads the indicating means. The shield is a flexible member arranged in contact with the transparent panel in the top of the closure and positioned between the prism and the rear sighting member. The shield and the prism are mounted in a holder in predetermined relation to each other and to the panel such that no light is reflected from the surface of the panel into the eyes of the observer. Under certain circumstances the observer may find it desirable to read the indicating means without the aid of a prism and consequently the illustrated holder is mounted for movement relatively to the panel. Different observers will require different positions of the prism relatively to the panel depending upon the height of the observer. Accordingly, in the illustrated assembly suitable provision is made for varying the space relation between the prism and the panel by adjusting a member constructed and arranged to determine the position of the holder.

The invention will now be described with reference to the accompanying drawings illustrating the embodiment of the present invention in a pelorus of the type above described.

In the drawings,

Fig. 1 is a sectional elevation through the center of a pelorus in which the present invention is embodied;

Fig. 2 is a sectional view similar to Fig. 1 on a somewhat larger scale illustrating a portion of the mechanism shown in Fig. 1;

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Fig. 3 is an enlarged detail view of a portion of a ring illustrated in Figs. 1 and 2; and

Fig. 4 is a plan view of a portion of the mechanism shown in Fig. 1.

Referring to Fig. 1 the invention is illustrated as embodied in a pelorus for use on shipboard, said pelorus comprising sight vanes 10 and 12 mounted respectively on brackets 14 and 16 each fixed to a bezel ring 18 secured by fastenings not shown in the drawings to an outwardly extending flange 20 of a rotor having a cylindrical wall the upper portion of which is illustrated in Fig. 1 and identified by the numeral 22. The illustrated assembly includes dials 24, 26 and 28, which may be mounted in any known manner, and an indicator 30 which in the illustrated assembly is secured to the rotor 22. The dials indicate the bearing of an object sighted with the aid of the pelorus. The dial 24 may, for example, indicate a relative bearing, that is, the angular relation between the line of sight and the lubber line of the vessel and the dials 26 and 28 may indicate the compass bearing. The dials and other mechanism carried by the rotor 22 are protected from the elements by a transparent panel or plate 32 through which the observer reads the dials. To assist the observer in reading the dials a prism 34 is arranged to refract the line of sight of the observer downwardly through the plate 32 and onto the dials. In Fig. 1 the line of sight is indicated by the broken line 35.

In order to obviate the effect of the glare caused by the reflection of the rays of the sun on the upper surface of the plate 32 at certain times in the day a sun shield 36 is arranged to shield that portion of the upper surface of the plate 32 adjacent to the prism 34. As herein illustrated the prism and the sun shield are mounted in a holder 38 which is pivotally mounted at 40 for swinging movement in a bracket 42 secured to the bracket 14. The prism 34 is shielded by a plate 44 arranged directly above the prism and secured to the holder 38. As herein illustrated the sun shield 36 is a resilient member which may be brought to bear upon the upper surface of the plate 32 when the holder 38 is swung into its position illustrated in Fig. 1, the illustrated shield being secured to an angular crosshead 46 (Fig. 4) connecting parallel side portions of the holder. The position of the holder relatively to the plate 32 may be adjusted by turning an abutment screw 48 which bears against the bezel ring 18. The observer adjusts the screw 48 in order to arrange the prism 34 in the most advantageous position for the reading of the dials.

Under certain circumstances the observer may prefer to read the bearing without the aid of the prism. Under such circumstances the holder **38** may be swung upwardly and outwardly to facilitate such reading of the dials.

When the illustrated assembly is mounted in a submarine the surface of the plate **32** is covered by water, when the submarine surfaces, to a depth approximating the combined thicknesses of the inwardly extending flange **50** of the bezel ring and a resilient ring **52** between said flange and the plate **32**. In order to drain the water from the surface of the plate **32**, thereby to enable an observer to read the dials through said plate immediately after the submarine has resurfaced, the ring **52** has drainage channels **54** formed therein, as indicated in Figs. 3 and 4. Said drainage channels communicate with a vertical space between the edge face of the plate **32** and the inner wall **56** (Fig. 2) of the bezel ring **18**, the water accumulating in said space flowing through ports **58** formed in the vertical wall of the bezel ring and outwardly over the base of the bezel ring. The ring **52**, as shown in Fig. 3, comprises a resilient member **60** cement attached to an annular strip of fabric **62**, the channel **54** being formed by cutting out a section of the resilient member **60** and leaving the fabric member **62** intact to maintain the integral character of the ring. The ring is preferably mounted on the plate **32** with the fabric strip **62** uppermost, as shown in Fig. 2, in order that the channels **54** will communicate with the vertical space between the edge face of the plate **32** and the inner wall **56** of the bezel ring. Thus it will be seen that water retained by the bezel ring on the plate **32** will drain off quickly through the channels **54** and the ports **58**.

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

In a pelorus, forward and rear sighting members, bearing indicating means, a closure for the bearing indicating means comprising a body and a panel through which the indicating means is visible, a prism through which an observer reads said indicating means, a shield comprising a flexible member arranged in contact with the panel and positioned between the prism and the rear sighting member, a holder for mounting the prism and the shield in predetermined relation to each other and to the panel, means mounting said holder for movement toward and from the panel, and means for adjusting the holder to bring the prism into the line of sight of an observer.

HARRY PHILLIPS.

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