Jan. 23, 1968 A. A. LIPTON 3,364,840

VENTILATOR

Filed April 1, 1966

Fig. 2

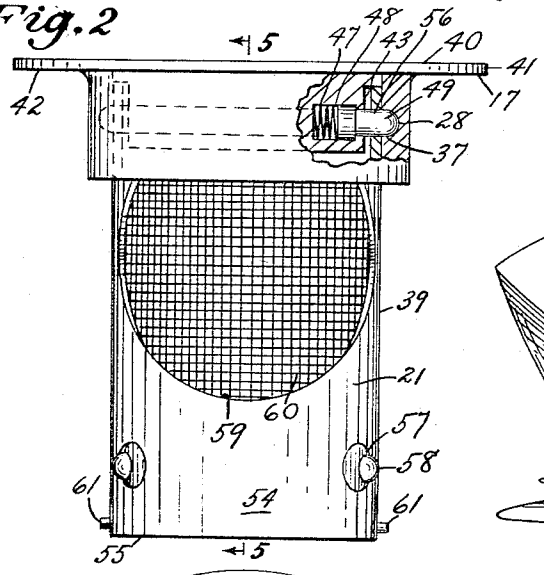
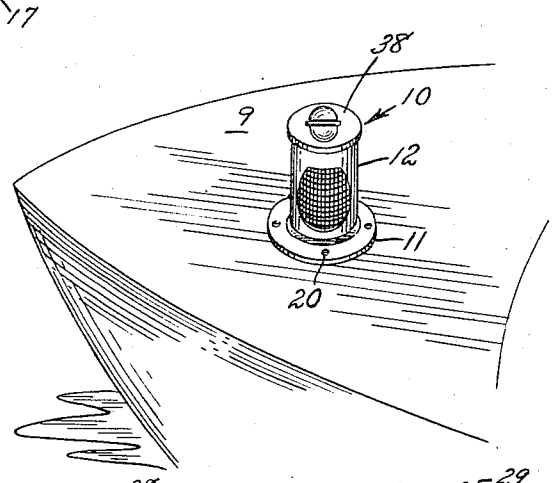


Fig. 1



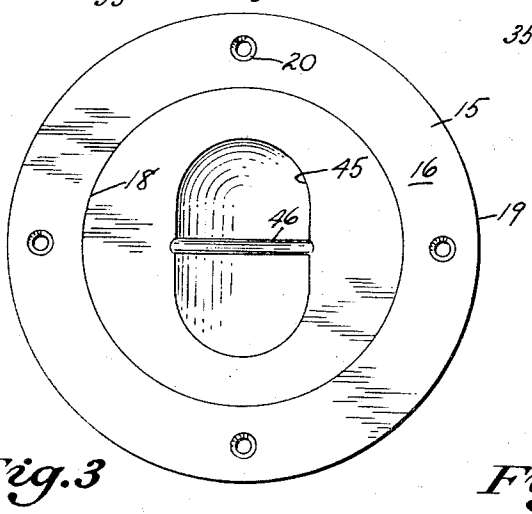


Fig. 3

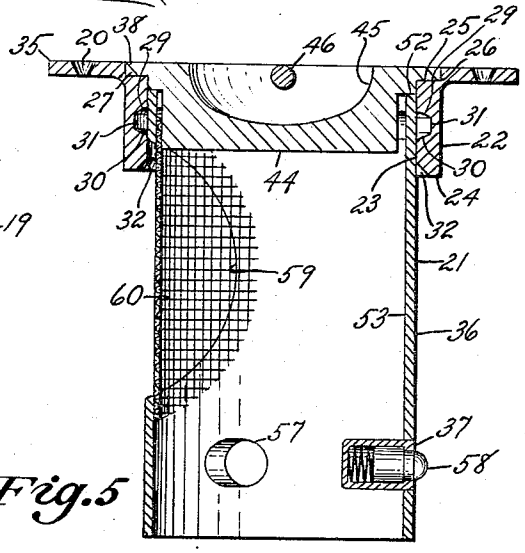


Fig. 5

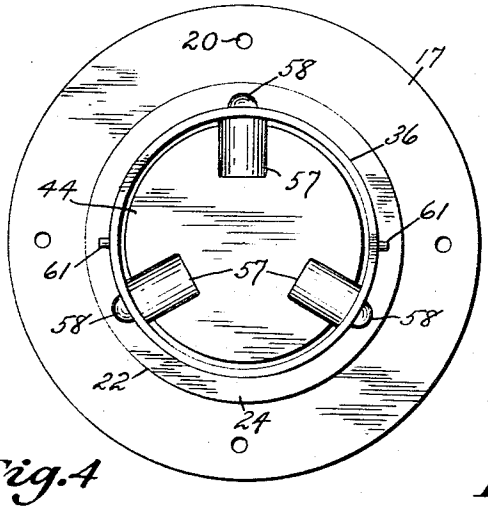


Fig. 4

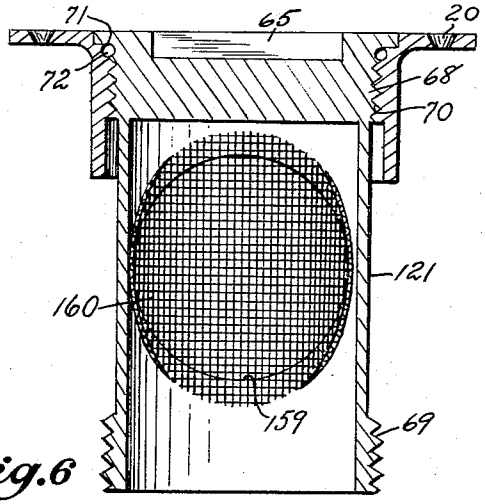


Fig. 6

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VENTILATOR

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3 Claims. (Cl. 98—64)

ABSTRACT OF THE DISCLOSURE

A tubular type ventilator including an outer sleeve, an inner sleeve closed at an outer end thereof and having at least one radially disposed opening, said inner sleeve being selectively moveable to either of two predetermined positions, means for maintaining said sleeve in a selected position, and engagement means disposed on an exposed surface of said inner sleeve.

This invention relates generally to the field of ventilating devices adapted to be installed upon planar surfaces, and more particularly to an improved selectively openable ventilator adapted for marine use.

It is among the principal objects of the present invention to provide a marine ventilator which may be conveniently installed in a suitable opening in the deck of a small boat.

Another object of the invention lies in the provision of an improved marine ventilator which may be conveniently opened and closed manually, and which is substantially water impermeable when in closed condition.

Yet another object of the invention lies in the provision of an improved marine ventilator which may be unusually durable, and including minimum of relatively moving parts, whereby the same may have a correspondingly long useful life.

A further object of the invention lies in the provision of an improved ventilating device possessed of the above advantages, in which the cost of fabrication may be of a reasonably low order, thereby permitting consequent wide sale, distribution and use.

A feature of the disclosed embodiment lies in the ease with which the same may be installed in the deck of a vessel.

Another feature of the invention lies in the unusually attractive appearance of the exposed portions of the device.

Still another feature of the invention lies in the provision of means for preventing the inflow of water on the deck of a vessel when the device is in opened condition.

These objects and features, as well as other incidental ends and advantages, will more fully appear in the progress of the following disclosure, and be pointed out in the appended claims.

In the drawing, to which reference will be made in the specification, similar reference characters have been employed to designate corresponding parts throughout the several views.

FIGURE 1 is a fragmentary view in perspective showing a first embodiment of the invention in installed condition upon the deck of a boat.

FIGURE 2 is an enlarged side elevational view of the first embodiment, showing the same in relatively closed condition.

FIGURE 3 is a top plan view thereof, as might be seen from the upper portion of FIGURE 2.

FIGURE 4 is a bottom plan view thereof, as might be seen from the lower portion of FIGURE 2.

FIGURE 5 is a longitudinal central sectional view as seen from the plane 5—5 in FIGURE 2.

FIGURE 6 is a longitudinal central sectional view, corresponding to that seen in FIGURE 5, but showing a second embodiment of the invention.

Referring now to the first embodiment of the invention, the device, generally indicated by reference character **10**, is illustrated in FIGURE 1 in installed condition upon the deck **9** of a small boat, installation being accomplished by drilling a hole (not shown) through the deck to communicate with a hold disposed therebeneath. The device comprises broadly: a base element **11** and an extendable element **12**.

The base element **11** is preferably formed from brass, bronze, or other material well adapted to withstand rust and corrosion, and may be suitably plated, as is well known in the art. It includes a mounting flange **15** bounded by an upper surface **16**, a lower surface **17**, an inner peripheral edge **18** and an outer peripheral edge **19**. To facilitate the mounting of the flange **15** upon the surface of the deck **9**, a plurality of counter-sunk screws **20** communicating between the surfaces **16** and **17** are preferably provided.

Depending from the lower surface **17** of the flange **15** is a cylindrical member **21** bounded by an outer surface **22**, an inner surface **23**, a lower edge surface **24** and an upper surface **25** which meets the lower surface **17** in a circular edge **26** to form a recess **27**. The inner surface **23** includes an arcuate groove **28** bounded by side surfaces **29** and **30** and a lower surface **31**. The lower edge surface **24** is modified to form a chamfered surface **32** to facilitate engagement with detent means to be described hereinbelow.

The extendable element **12** is also formed of a corrosion-resistant material, and includes a cap member **35**, a sleeve member **36** and position-retaining means **37**.

The cap member **35** includes an upper flange portion **38** and a cylindrical portion **39**. The flange portion **38** is bounded by an upper surface **40**, an arcuate edge surface **41** and a lower flange surface **42**. The cylindrical portion **39** includes a stepped cylindrical surface **43** and a lower planar surface **44**. Extending inwardly from the upper surface **40** is an elongated recess **45** providing access to a transverse rod **46** which may be manually engaged, or by means of a tool (not shown) to permit the extendable element **12** to be pulled upwardly to the position shown in FIGURE 1 from the position shown in FIGURE 5. Positioned within recesses **47** are springs **48** which bear against ball detents **48** selectively engageable with the above described arcuate groove **28**, said detents forming a part of the retaining means **37**.

The sleeve member **36** is bounded by an upper edge surface **52**, an inner surface **53**, an outer surface **54**, and a lower edge surface **55**. Upper orifices **56** provide for penetration by the ball detents **49**, and similar lower orifices **57** provide for the passage of ball detents **58** of similar construction. Communicating between the inner and outer surfaces **53** and **54** is an opening **59** protected by a screen **60**. As best seen in FIGURE 1, it will be observed that the lower edge of the opening **59** is disposed above the upper surface **16** of the mounting flange **15**, so that any small amount of water which may be disposed upon the deck **9** will not enter the opening with the normal rocking of the boat. Extending outwardly from the surface **54** adjacent the lower edge surface **55** are a plurality of stop means **61** which may be in the form of small screws.

When the top member **53** has been depressed to the position shown in FIGURE 5, it lies flush with the mounting flange **15**, and thus presents the neat appearance shown in FIGURE 3. Upon engagement of the rod **46**, and the exertion of an upward force thereupon, the ball detents **49** are dislodged from engagement within the groove **28**, permitting the extendable element **12**

to be raised to the position shown in FIGURE 1, wherein further motion is prevented by engagement of the stop means **61** with the lower edge surface **24**, at which point the detents **58** engage the groove **28**.

Turning now to the second embodiment of the invention, generally indicated by reference character **64**, parts corresponding to those of the first embodiment have been designated by similar reference characters with the additional prefix "1".

The second embodiment differs from the first embodiment in the provision of a slot **65** extending into the upper surface **140** of the flange portion **138** which may be engaged by a suitable tool such as a screwdriver. The detents **49** and **58** are replaced by shallow upper threads **68** and lower threads **69** selectively engageable with corresponding threads **70** on the inner surface of the cylindrical member **121**. If desired, there may also be provided a groove **71** accommodating "O"-ring means **72** which forms an effective hydraulic and hermetic seal when the upper threads **68** are tightened. The second embodiment is particularly useful where the device is installed in locations which are likely to transmit water therethrough under predetermined conditions. The second embodiment is placed in open condition by rotating the extendable element until the upper threads **68** are disengaged, following which the element is listed to a point where the lower threads **69** may be engaged, and rotated to a position of full engagement with the threads **70**. Excessive rotation in this position is prevented by forming a portion of the threads **69** in misaligned condition, or by distorting the same, as is well known in the art.

I wish it to be understood that I do not consider the invention limited to the precise details of structure shown and set forth in this specification, for obvious modifications will occur to those skilled in the art to which the invention pertains.

I claim:

1. A ventilator comprising: a base element and an extendable element; said base element including a mounting flange having a substantially centrally disposed opening and a hollow cylindrical member having a bore communicating with said opening; said extendable element including a hollow sleeve member having an outer surface, an inner surface, and first and second ends defining a bore having a principal axis, a flange member closing one end of said bore, there being an opening in said sleeve member extending between said inner and outer surfaces and intermediate said ends; said extendable element being at least partially disposed within said cylindrical member, means for selectively fixing the relative position of said extendable element relative to said cylindrical member in either of two predetermined positions, and engagement means on an outer surface of said flange member for moving said extendable element between said first and second positions.

2. Structure in accordance with claim **1** in which said last-mentioned means includes a plurality of spring-pressed ball detents projecting outwardly of the outer surface of said sleeve member and manually engageable means recessed in an outer surface of said flange member.

3. Structure in accordance with claim **1** in which said last-mentioned means includes first and second threads on the outer surface of said sleeve member at opposite ends thereof substantially at said first and second ends, a corresponding thread on an inner surface of said cylindrical member and tool engaging means recessed in an outer surface of said flange member.

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