Dec. 19, 1961 J. W. KNIGHT 3,013,483

VENTILATOR ASSEMBLY FOR A FLEXIBLE COVER

Filed Oct. 13, 1959 3 Sheets-Sheet 1

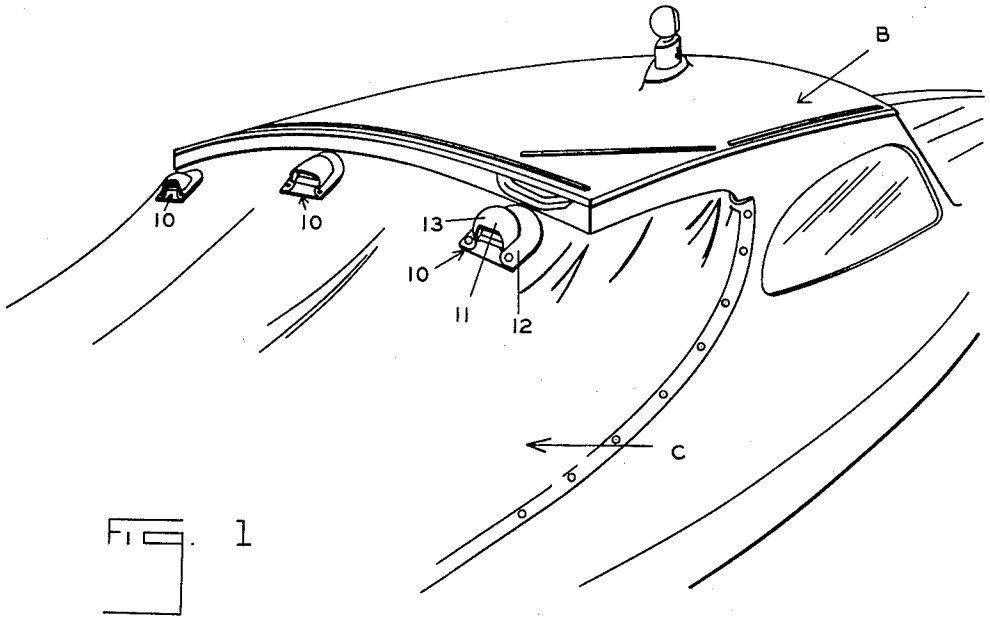


FIG. 1

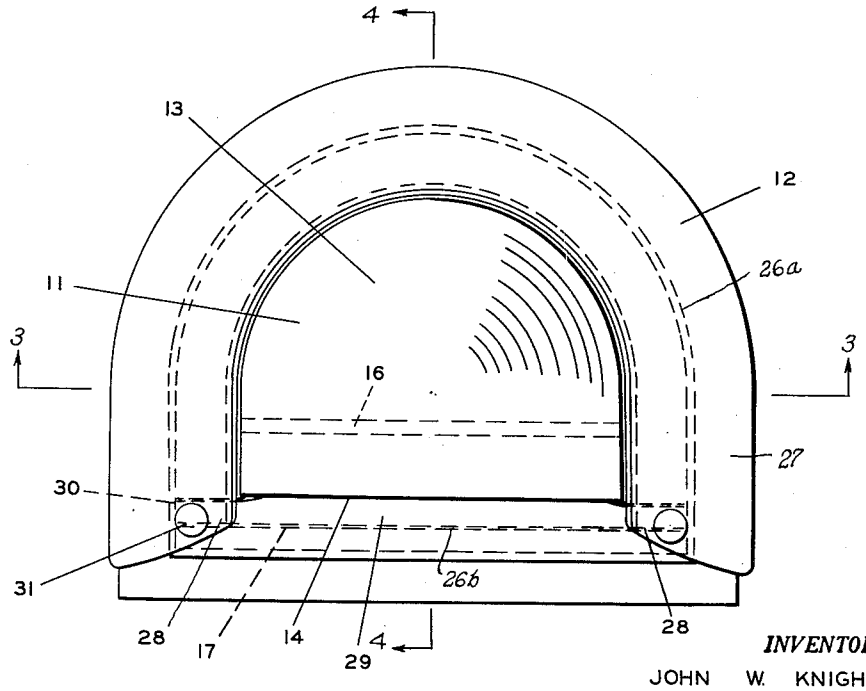


FIG. 2

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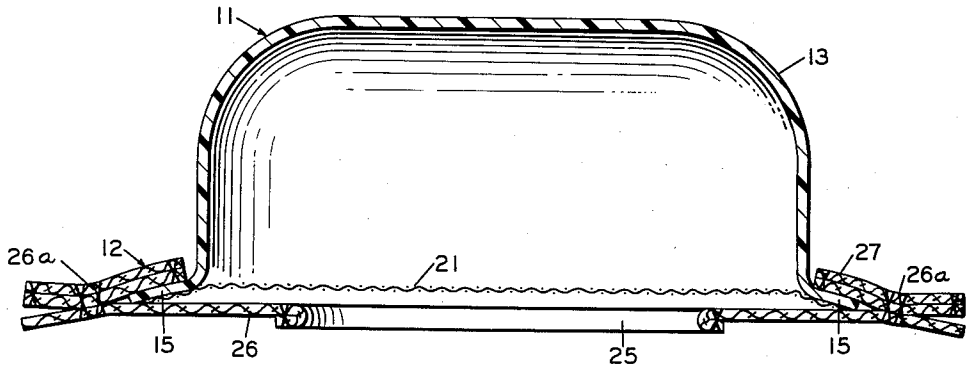


FIG. 3

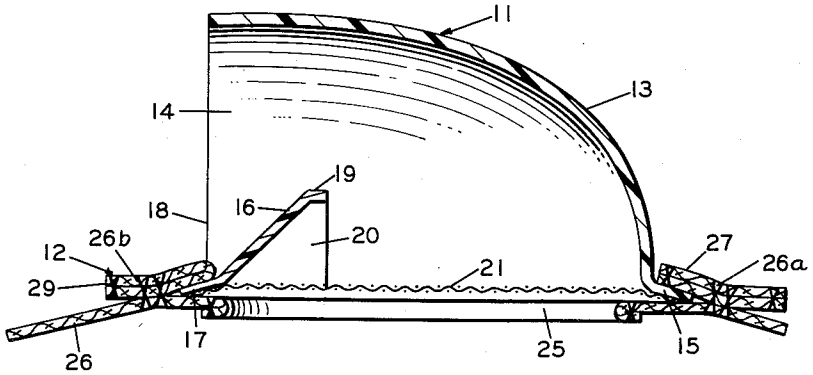


FIG. 4

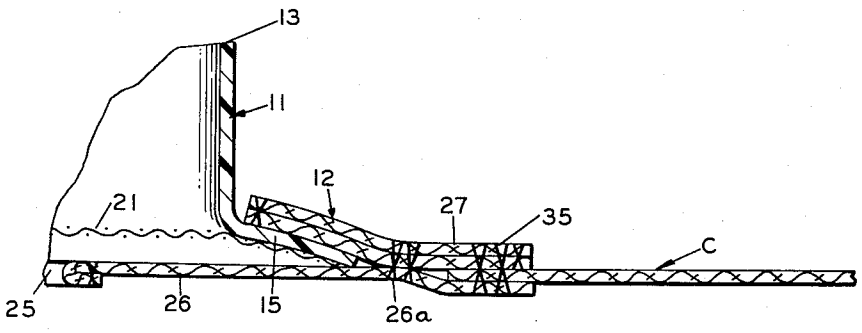


FIG. 5

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VENTILATOR ASSEMBLY FOR A FLEXIBLE COVER

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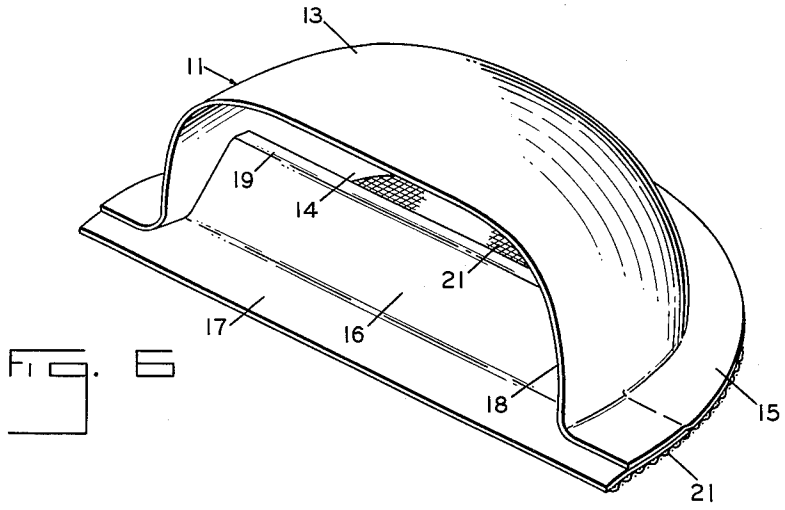


FIG. 6

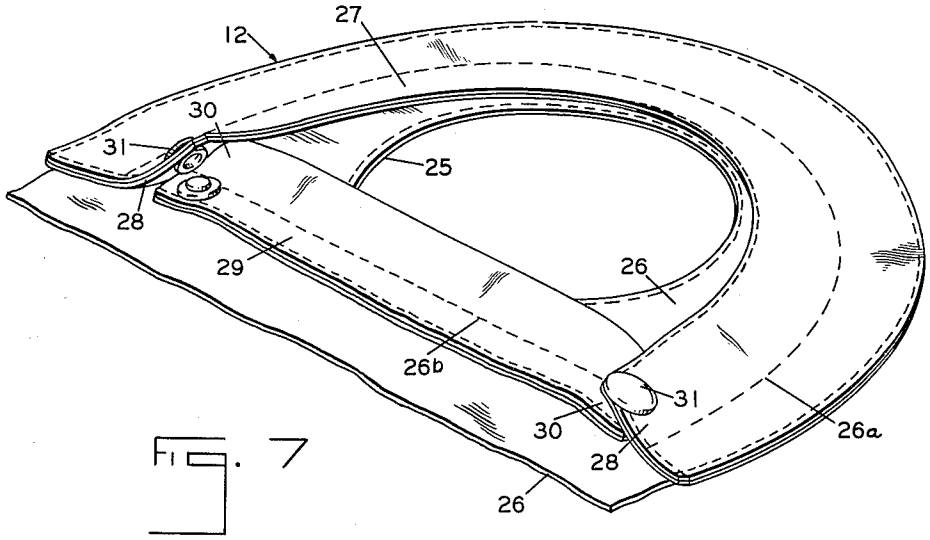


FIG. 7

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United States Patent Office 3,013,483 Patented Dec. 19, 1961

3,013,483
VENTILATOR ASSEMBLY FOR A FLEXIBLE COVER

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Filed Oct. 13, 1959, Ser. No. 846,201
3 Claims. (Cl. 98—37)

My invention relates to a ventilator assembly for a flexible cover. It has to do, more particularly, with a ventilator assembly for attachment to a flexible cover such as a boat cover to reduce the hazards of dry rot, mold and mildew to a boat and its contents.

According to my invention, I provide a ventilator assembly for use, for example, in a flexible canvas cover of the type commonly applied to various types of boats to protect them from rain and other weather. The ventilator assembly of the present invention is extremely simple and inexpensive in its construction, while at the same time providing efficient ventilation for the covered boat and protection against entry of blowing rain, insects, etc. The present ventilator assembly is so designed that it can be easily stitched into position within a vent opening cut into the cover. The present assembly includes a removable, substantially rigid, air scoop-type ventilator member and an associated flexible mounting rim or pocket-forming insert, the latter being adapted to be permanently sewn to the boat cover, with the ventilator member being readily detachable from the flexible mounting rim to permit flat folding and storage of the flexible boat cover in the usual manner.

In the accompanying drawings, I have illustrated my ventilator assembly incorporated in one type of boat cover. However, it will be understood that the present ventilator assembly may be applied to many different types of boat covers or other similar covers made of flexible material.

In the drawings:

FIGURE 1 is a perspective view illustrating a plurality of my improved ventilator assemblies applied to a boat cover.

FIGURE 2 is a plan view of the ventilator assembly before application thereof to a boat cover.

FIGURE 3 is a transverse sectional view taken along line 3—3 of FIGURE 2.

FIGURE 4 is a vertical sectional view taken along line 4—4 of FIGURE 2.

FIGURE 5 is an enlarged, fragmentary, sectional view illustrating how the flexible ventilator mounting rim or insert is sewn into an associated boat cover.

FIGURE 6 is a perspective view of the air scoop ventilator body apart from the associated flexible mounting rim or insert.

FIGURE 7 is a perspective view of the flexible mounting rim of the present ventilator assembly.

With reference to the drawings, in FIGURE 1 I have illustrated a flexible cover C for the boat B. This cover is provided with a plurality of the ventilating assemblies 10 which embody my invention. Any number of these assemblies 10 may be readily incorporated in the cover to give the proper ventilation to the interior of the boat. The cover C is usually of canvas material but may be of other flexible material such as plastic or the like.

Each assembly 10 includes a substantially rigid or semi-rigid ventilator member 11 and a flexible pocket-forming mounting rim or insert 12 for removably receiving the ventilator member.

The ventilator member 11 preferably includes a segmental dome-shaped or air scoop-shaped body 13 which defines a right angular passage or throat 14 which opens at the forward and lower ends of the body. The body 13 is formed along its open lower end with an outwardly

projecting, transversely curved, generally U-shaped base flange 15. Within the throat 14 at the lower side thereof is a vertically inclined baffle member 16 which extends partially upwardly into the throat 14 and transversely across the same. This baffle member 16 is provided with a forwardly projecting curved base flange 17 which extends transversely across the forward open end of the body 13 in underlying relation to the forward ends of the U-shaped base flange 15 and projects forwardly beyond the forwardmost edge 18 of the body 13. It will be apparent that the plane of the edge 18 which defines the open mouth of the body 13 is generally perpendicular to the plane of the flanges 15 and 17. The baffle 16 extends at an angle upwardly and rearwardly within the throat 14 and terminates at its upper and inner edge in a flat lip 19 spaced below the upper wall of the body 13. Triangular tabs 20 are provided at the ends of the baffle and are cemented or otherwise secured to the inner side surfaces of the body 13. The curvature in the flanges 15 and 17 causes them to turn downwardly slightly as indicated in FIGURES 3 to 5. Cemented to the lower surface of the flanges 15 and 17 is an insect excluding screen 21 which extends fully over the open bottom in the body 13 of the ventilator member. The flanges 15 and 17 form a substantially continuous, laterally projecting base flange extending completely around the periphery of the body 13 at the bottom thereof. Thus, the member 11 is made of three parts, namely, the body 13, the baffle 16, and the screen 21 which may be molded as separate units, preferably from substantially rigid or semi-rigid plastic or other suitable material, and which may be easily and permanently secured to one another by cementing or in any other suitable manner.

The ventilator assembly further includes a flexible pocket-forming mounting rim or insert 12 which is of the same general shape, but slightly wider than the base flanges 15 and 17 of the ventilator member. This mounting rim or insert 12 may be made of the same flexible material as the cover C, or from other suitable flexible material which can be stitched or otherwise fastened to the cover C. The mounting rim 12 includes a lower base panel 26 of flexible material which has a central opening 25 formed therein which is slightly smaller in area than the bottom opening of the ventilator body 13. Attached to the upper surface of this panel 26 is a double thickness, flexible, U-shaped pocket-forming strip or ply 27. The strip 27 overlies the side and rearward edge portions of the base panel 26 and is secured thereto by a U-shaped line of stitches 26*a* spaced a distance inwardly from the outer edges of the panel 26 and the strip 27. The ends of the U-shaped pocket-forming strip 27 define a pair of foldable inner corners 28. Secured to the panel 26 at the front edge portion thereof, as by means of the line of stitches 26*b*, is another double thickness, flexible strip 29 which has its ends 30 extended beneath the inner corners 28 of the pocket-forming strip 27. Snap fasteners 31 are provided for detachably connecting the overlapping corners 28 to the ends 30 of the forward strip 29. The flexible strips 27 and 29 provide between them and the panel 26 a continuous pocket having an outline closely conforming to the base flanges 15 and 17 of the ventilator member 11. Thus, the base flanges 15 and 17 of the ventilator member may be inserted within the pocket formed between the base panel 26 and the strips 27 and 29, and securely, but detachably, locked therein by closure of the snap fasteners 31. However, the member 11 can be easily removed as a unit from the flexible mounting rim 12 by opening the fasteners 31 which will then permit the strips 27 and 29 to be folded upwardly to provide removal clearance for the base flanges 15 and 17 of the ventilator member.

To install the present ventilator assembly in the boat

cover C, the latter is cut at a desired location so as to form therein a vent opening conforming substantially in shape and size to the lines of stitches **26***a* and **26***b* of the flexible mounting rim or insert **12**. The cut edges of the cover C which define this opening are then placed between the outer edges of the base panel **26** and the outer edges of the pocket-forming strips **27** and **29** of the mounting rim **12**, and the overlying layers, comprising the base panel **26**, the cover C, and the pocket-forming strips **27** and **29**, are then sewn together with a continuous line of stitching **35**, as shown in FIGURE 5. Alternatively, if desired, the edges of the cover which define the ventilator-receiving opening may be permanently cemented between the base panel **26** and the pocket-forming strips **27** and **29** through the use of a suitable adhesive.

In use, as indicated in FIGURE 1, the present ventilator assemblies may be positioned in one or more desired locations on the boat cover C, so as to provide adequate ventilation for the covered and enclosed portions of the boat. When so installed, the present ventilator assembly permits free circulation of air to and from the interior of the boat. However, the baffle **16** serves to prevent the blowing or dripping of rain through the throat of the ventilator body **13** and the screen **21** will prevent the entry of insects or extraneous matter into the boat by way of the ventilator body. By removing the substantially rigid ventilator member **11** from the mounting rim **12**, the associated boat cover may be flatly folded and stored without protrusion or bulges which would otherwise occur through the use of a non-detachable type of ventilator.

It will be apparent from the above that I have provided a ventilator assembly for flexible covers which has many advantages. Some of these advantages have been discussed in detail and others will be apparent to those skilled in the art.

Having thus described my invention, what I claim is:

1. A ventilator assembly for attachment to a flexible boat cover having a vent opening formed therein com-

prising a generally annular mounting rim composed of a plurality of relatively overlying plies of flexible fabric material, said plies being connected with one another in their central regions only and defining on the outer edge of said rim an outwardly opening marginal pocket for the reception of the edge portion of a boat cover which defines the vent opening therein, said plies forming at the inner edge of said rim an inwardly opening marginal pocket, one of the plies of said rim being formed by a pair of relatively separate strips having relatively overlying corner portions, said corner portions being openable to provide ingress and egress to and from the inwardly opening marginal pocket of said rim; a substantially rigid, hollow, scoop-shaped ventilator body having an open forward end and an open bottom and provided adjacent the bottom thereof with a generally annular, laterally outwardly projecting base flange removably positioned within the inwardly opening marginal pocket of said mounting rim between the relatively overlying plies thereof; and snap fasteners connected with said relatively overlying corner portions for closing said corner portions and to thereby prevent removal of the base flange of said ventilator body from the inwardly opening marginal pocket of said mounting rim.

2. A ventilator assembly as defined in claim 1, wherein said ventilator body is provided internally with a transversely extending, vertically inclined baffle projecting upwardly from the base flange of said body at the forward end thereof and partially closing the open forward end of said body.

3. A ventilator assembly as defined in claim 2, including a perforate, insect-excluding screen secured to the base flange of said body in covering relation to the open bottom of said body.

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