

[54] CLOTH VENTILATOR

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[22] Filed: June 20, 1972

[21] Appl. No.: 264,609

[52] U.S. Cl. 98/37, 52/199, 52/219, 98/64, 98/82, 114/211

[51] Int. Cl. F24f 17/02

[58] Field of Search. 98/37, 64, 82; 52/63, 198, 199 X, 218, 219 X; 135/14 H, 14 V; 114/211 X

[56] References Cited

UNITED STATES PATENTS

59,264	10/1866	Raymond.....	98/64
453,638	6/1891	Howe.....	98/64
2,130,603	9/1938	Spelman	114/211

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Assistant Examiner—Peter D. Ferguson
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[57] ABSTRACT

A cloth ventilator having an upper half formed of an X cross-section and a lower half formed as a diffuser of square cross-section, said part of X cross-section extending into said part of square cross-section. The bottom of said cloth ventilator having means for holding it open and fixing it within a hatchway and the top of said ventilator having means for supporting said X cross-section so that a wind can blow into said ventilator from any direction and be directed downwardly into said bottom section. Said ventilator has a top which is spaced from the top of said X cross-sectional portion so that a gust of wind can pass therebetween and not place too great a strain on the material, the top having a support rope connected to a support on a mast above the deck of a boat.

7 Claims, 5 Drawing Figures

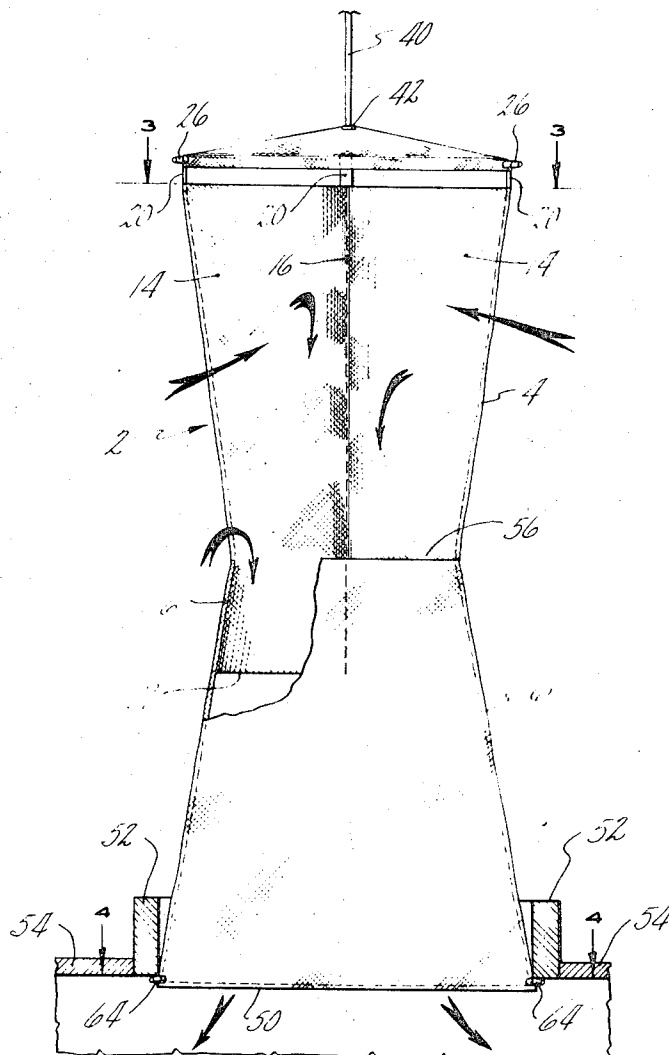
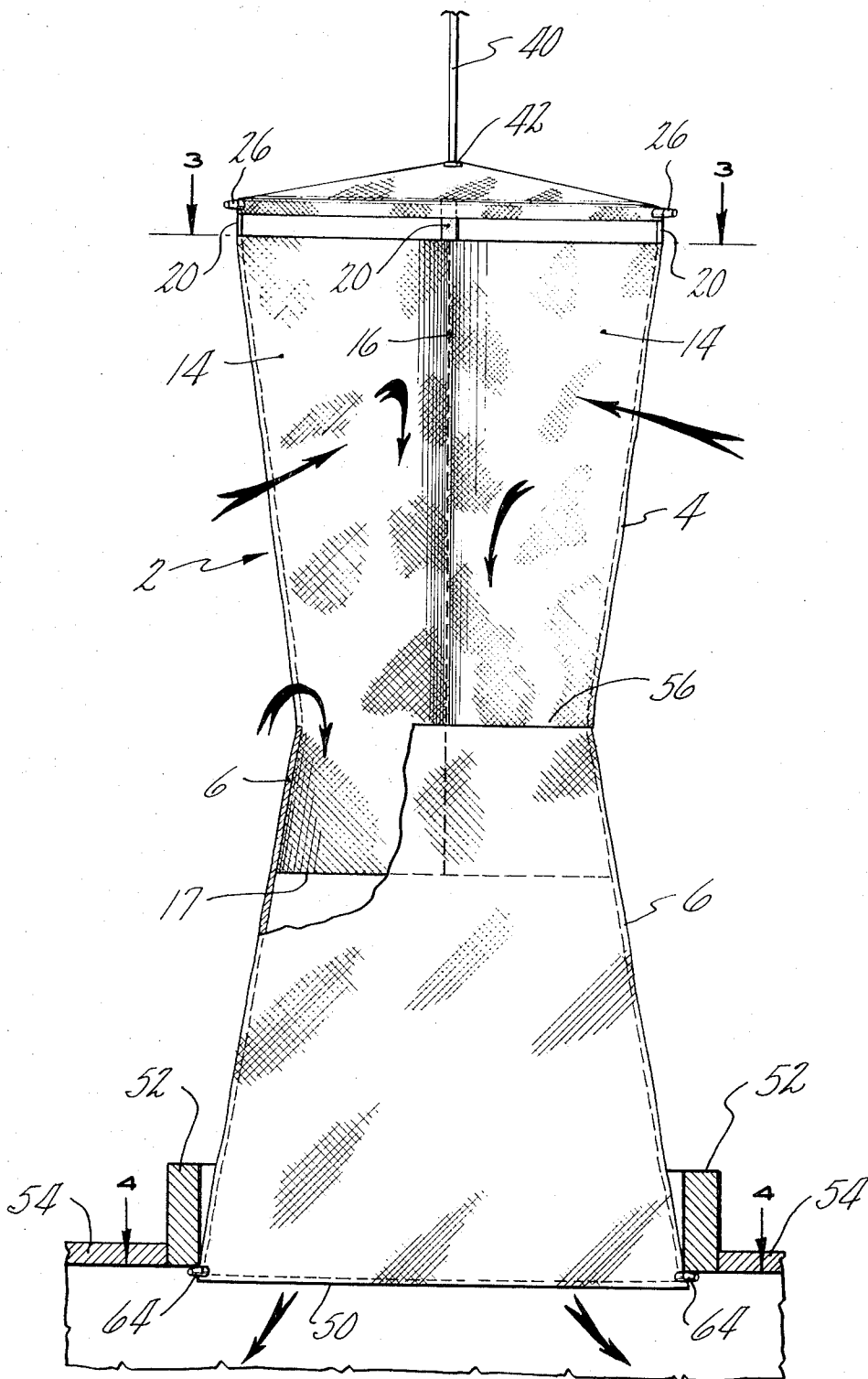


FIG. 1



2 Sheets-Sheet 2

FIG. 2

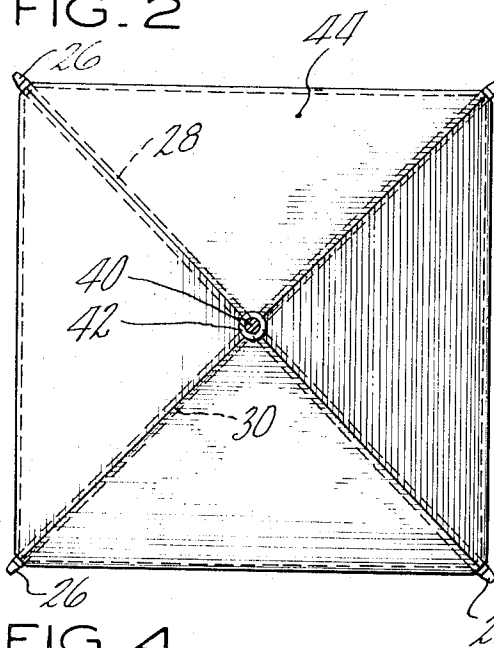


FIG. 3

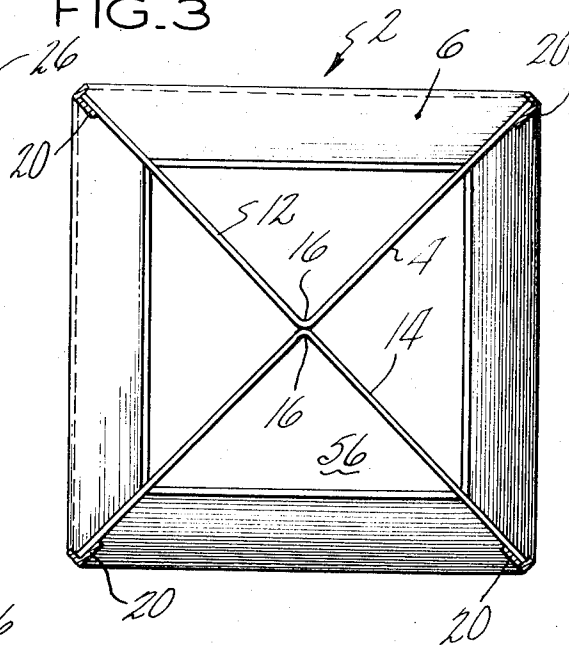


FIG. 4

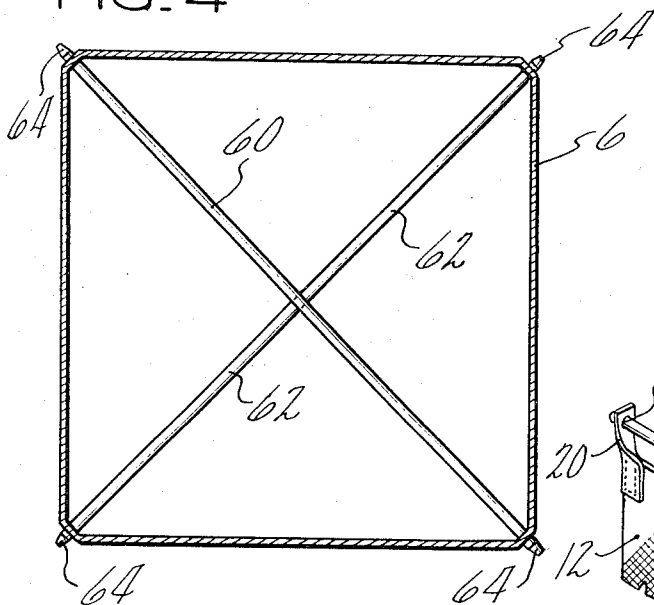
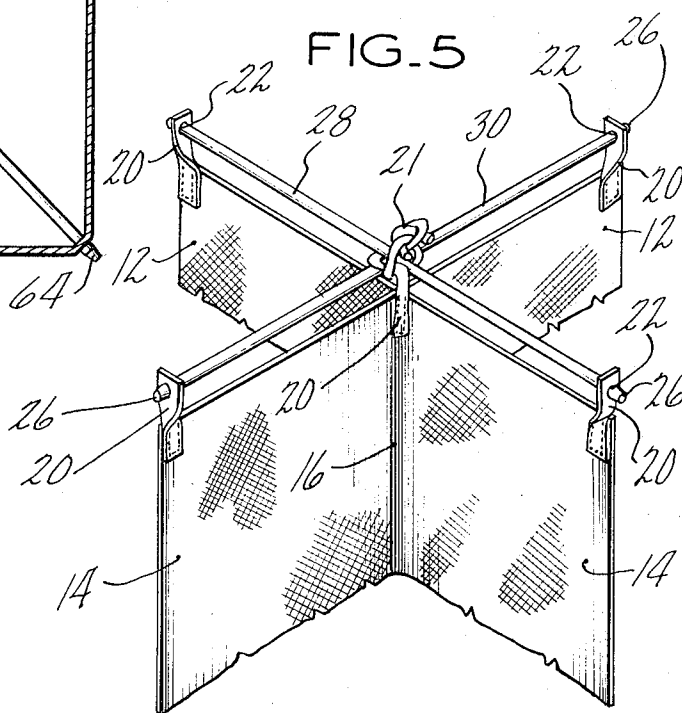


FIG. 5



CLOTH VENTILATOR

BACKGROUND OF THE INVENTION

This invention relates to ventilating devices and contains improvements advancing the art. A ventilator of this type is shown in U. S. Pat. No. 59,264.

SUMMARY OF THE INVENTION

An object of this invention is to provide a removable ventilating device which can be used on a boat to direct an air flow into a living space below deck and yet be storable in a small space when not needed.

Another object of the invention is to provide a ventilator which will permit the passage of air therethrough when the wind presents gusts which are too great for the ventilator to handle.

A further object of the invention is to provide a diffusing section so that the area of the lower section will increase at its top as soon as air flow enters.

Another object of the invention is to provide means for maintaining the ventilator open and in a hatchway and another means for supporting the upper section of X cross-section so that it is in position to receive a wind when one is available.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevational view, partially in section, of a ventilator device incorporating the invention.

FIG. 2 is a top view of the boat ventilator shown in FIG. 1.

FIG. 3 is a view taken along the line 3—3 of FIG. 1.

FIG. 4 is a view taken along the line 4—4 of FIG. 1.

FIG. 5 is a perspective view of the supporting means for the boat ventilator with the top removed.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIG. 1, this boat ventilator 2 is formed comprising two main parts, the top part 4 for receiving air flow and a bottom, diffuser shaped, part 6 for receiving the flow deflected therefrom and directing it into the hold of a boat. The upper part 4 is formed from a fabric, and as seen in FIG. 3, is formed of an X-shaped cross-section. While the length of cloth having an X-shaped cross-section can be formed in many ways, this section is formed from two V-shaped sections 12 and 14 of fabric which are connected along a center line 16. Each V-shaped section is of the same size from the top to the bottom 17 within the bottom part 6. The edges of the V-shaped sections are reinforced against wear.

The top edge of the upper portion 4 has a supporting tab member 20 fixed to the free end of each V-shaped member and at the center where they meet. The tabs at the end corners of the X-shaped fabric have holes 22 therein to receive the tapered ends 26 of rigid support members 28 and 30. Each support member extends between the holes 22 of opposed tabs 20 together forming an X-shape. The center tab 20 has a loop 21 at the top thereof through which the rigid support members 28 and 30 extend. A support rope 40 extends through a hole 42 in a top fabric cover member 44. The top fabric member 44 is formed of a square shape with a hole at each corner for cooperation with each hole 22 of the ends of the V-shaped members. The ends of the fabric member 44 overlap each tab 20 and are sewn thereto so that the holes therein are aligned with the holes 22

of the tabs 20. A metal grommet reinforces the edges of each set of holes. The support rope 40 can have a hook member on the free end so it can be attached to a rope on the mast and held in position while the boat is anchored. The tab 20 are of such a length so as to provide a space between the top fabric member 44 and the upper ends of the V-shaped sections 12 and 14. This provides for excessive winds to pass therethrough.

The bottom portion 6 is shaped as a square diffuser and has its lower larger end 50 positioned within a hatch 52 formed in the deck 54 of a boat. The upper smaller end 56 is sewed to the upper portion 4 adjacent the lower edges of the X-shape. In FIG. 1, the upper portion 4 is shown extending into the diffuser bottom part about 20 to 25 percent of its length. It can be seen that with the V-shaped sections being of the same size from the top to the bottom, as the wind blows into the cloth ventilator from one side, the loose hanging cloth will fill out, permitting the opening of one-fourth of the X-shaped cross-section to be enlarged to permit the inflow of air through the smaller end 56 of the lower bottom part 6.

The bottom 50 of the lower bottom part 6 has means to hold it open and inside of the hatch. The means shown are two more crossed rigid members 60 and 62 whose ends 64 project through the ventilator and under the hatch. While this means of attachment has been shown, other means may be used. The rigid support members 60 and 62 open the lower exit end of the bottom part 6 and also serve to fix it with relation to the boat structure. It can be seen that by the removal of the rigid members 28, 30, 60 and 62, the cloth ventilator can be stowed in a very small area with no permanent projection above ordinary boat deck level. In operation, with said rigid members 60 and 62 in position, they act as a deterrent to one seeking improper entry to said boat through said ventilator.

I claim:

1. A ventilator for receiving a wind and directing it downwardly therefrom, said ventilator having its upper part formed of X cross-section for its entire length, a lower part formed of square cross-section, said upper and lower parts being formed of flexible material, the lower section of the upper part formed of X cross-section extending into the upper section of said square cross-section part, the bottom section of said lower part having means for holding it open and fixing it within an opening, the top of said upper part having means for supporting the upper section of the upper part of said X cross-section while the remainder hangs loosely therefrom, a top fixed to the upper portion of said upper part, said top being spaced from said upper part so that the portion of a wind which is excessive can pass therethrough without placing too great a strain on the ventilator.

2. A ventilator as set forth in claim 1 wherein a tab means is located at each end of the upper part formed of X cross-section, each of said tabs being fixed to said top, the length of said tabs predetermining the distance that the top is spaced from said upper part.

3. A ventilator as set forth in claim 2 wherein a second tab means extends upwardly from the center of said upper part formed of X cross-section, a rope-like means passing through a hole in said top being connected to said second tab means for supporting said ventilator.

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4. A ventilator as set forth in claim 3 wherein the end of each of said tab means has a hole aligned with a hole in said top, rigid support members extending between opposite holes along the members forming the X shape.

5. A ventilator as set forth in claim 4 wherein the rigid support members extend through the second tab means.

6. A ventilator as set forth in claim 1 wherein the means for holding the bottom section open and fixing

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it within an opening comprises rigid holding members extending between holes located in opposite corners of the bottom of said lower part.

7. A ventilator as set forth in claim 1 wherein the lower part formed of square cross-section has the area increasing from the top to the bottom thereof, the upper part of X cross-section being of the same size for its entire length.

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