Dec. 19, 1939. R. C. HANSEN 2,183,645

VENTILATOR AND ROOF SUPPORT

Filed Feb. 6, 1939

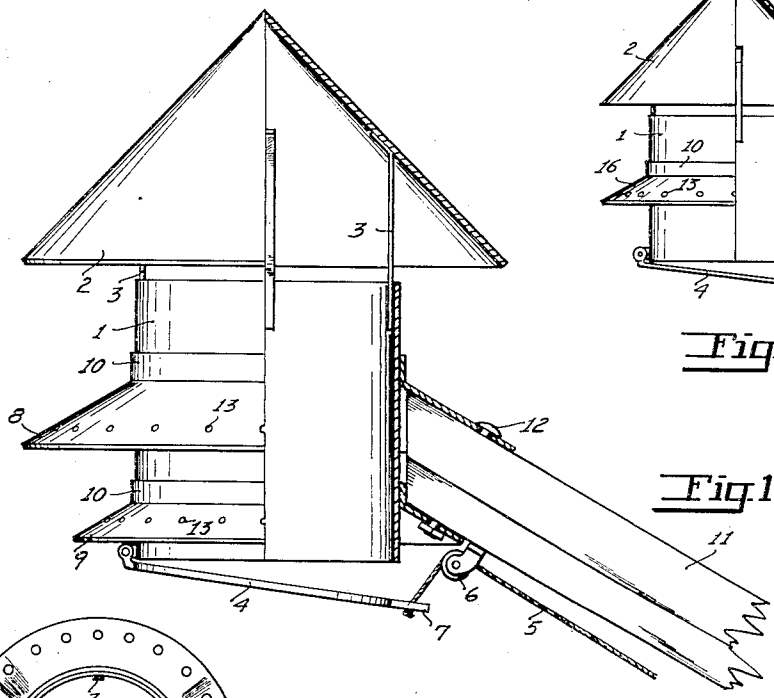

Fig. 1

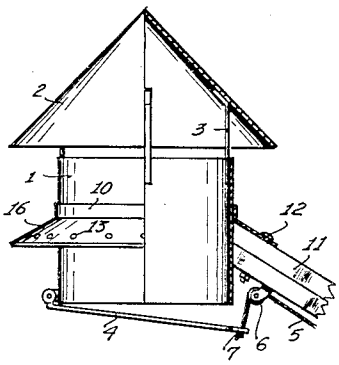

Fig. 3

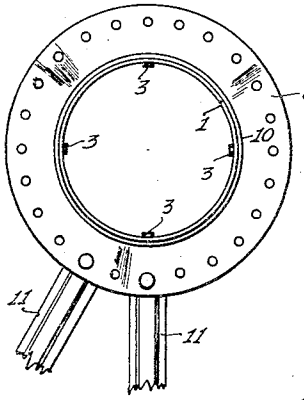

Fig. 5

Fig. 2

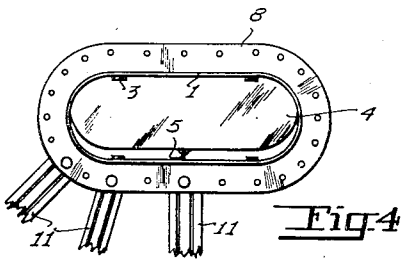

Fig. 4

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VENTILATOR AND ROOF SUPPORT

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Application February 6, 1939, Serial No. 254,789

2 Claims. (Cl. 108—32)

This invention relates to a device for ventilating building structures, and more particularly to a combined ventilator and support for the rafters and other parts of a roof.

It is an object of the invention to provide a device for supporting the roof parts and rafters in building or tank construction and the like, and to provide a ventilator therefor.

It is a further object of the invention to provide means for supporting the apex of a roof, and to provide a ventilator therefor.

It is a further object of the invention to provide a combined ventilator and roof support for building structures.

With these and other objects in view, the invention resides in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawing, and set forth in the appended claims, it being understood that various changes in form, proportion, size and detail of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Figure 1 is a side elevation, partly in section, of a combined ventilating unit and roof support embodying the present invention.

Figure 2 is a perspective view of the device illustrated in Figure 1, illustrating the manner of securing the roof structure thereto.

Figure 3 is a side elevation, partly in section, of a modified form of the device illustrated in Figure 1.

Figure 4 is a plan view of a combined ventilating unit and roof support with the hood removed, illustrating an elongated form of the device.

Figure 5 is a plan view, with the hood removed, of a combined ventilating unit and roof support, illustrating a circular form of the device.

The drawing illustrates a combined ventilating unit and roof support comprising a ventilator element 1, which is designed to extend through the apex of a roof for providing ventilation therethrough for the enclosure therebeneath. A conical shield or hood 2 is supported above the upper end of the ventilator element 1 by means of supports 3 welded, riveted or otherwise fastened to both the ventilator element and the hood 2. The conical hood serves the obvious purpose of deflecting rain and snow from the upper end of the ventilator element. The ventilator element 1 is normally open at both ends thereof so as to serve as an inlet for fresh air, or for exhausting foul or stagnant air or gases from the structure. A closure member 4 is hinged to one side of the ventilator element 1 in such manner as to be under control of a rope or cable 5 run over a pulley 6, whereby, when the cable is tightened, the closure member 4 is pulled upwardly into position to close the lower or inner end of the ventilator element 1. The closure member 4 is of slightly larger diameter than the ventilator element 1, and is provided with a projection 7 opposite the hinge, to which is secured the cable 5.

Exteriorly of the ventilator element 1 are spaced flanges 8 and 9, respectively, which circumscribe the ventilator element 1 at points separated by the width of the roof supports. Each of the flanges 8 and 9 is formed with a collar 10 which is welded or riveted to the ventilator element 1 to hold the flanges 8 and 9 rigidly in spaced apart relation. The flanges are aligned at an angle corresponding to the pitch of the roof of the building structure. The upper ends of roof parts or rafters 11 are inserted between the flanges 8 and 9 and secured therebetween by means of bolts 12 which are inserted through aligned holes 13—13 in the respective flanges and through the rafters.

Referring to Figure 2, it will be noted that in the construction illustrated, the rafters 11 are fastened to the flanges 8 and 9 by bolts 12 inserted through every second set of aligned holes 13. The drawing illustrates the manner in which roof sashes 14, for a greenhouse and the like, may be laid upon the rafters 11, the upper end of the sash being held in place by a bolt 15 inserted through aligned holes in the respective flanges, which holes are disposed intermediate between the holes which are used to receive the bolts for holding the rafters.

Figure 3 illustrates a combined ventilating unit and roof support employing but one flange 16 which circumscribes the ventilator element at a point midway between its ends. In the modified form of the structure the rafters 11 or other roof parts are supported by being caused to abut against the ventilator element 1, and by bolts 12 which secure them to the flange 16 in the manner shown.

Figures 4 and 5 illustrate the form in which the device may be adapted for buildings of varying dimensions. Figure 4 shows a device for a building which is longer in one direction than in another, and Figure 5 shows a device for a building which may be either square or circular.

Having now described my invention and in what manner the same may be used, what I claim as new and desire to protect by Letters Patent is:

1. A roof structure for a building, comprising a ventilator element having a lower portion extending into said building, a closure element in said

lower portion for closing said ventilator, spaced flanges which circumscribe said ventilator element at points separated by the thickness of a rafter, said flanges being aligned at an angle corresponding to the pitch of the roof of said building, aligned openings in said flanges, a plurality of radially extending rafters having lateral roof supporting means thereon received between said flanges, each rafter being secured by means extending through certain of said aligned openings, and triangular roof panels received between said flanges and between said rafters and secured by means extending through other of said openings.

2. A roof structure, comprising a central ventilator element having spaced flanges inclined at an angle corresponding to the pitch of said roof, aligned openings in said flanges, a plurality of radially extending rafters having lateral roof supporting means thereon received between said flanges and rigidly secured by means extending through certain of said openings, and triangular roof panels received between said flanges and between said rafters and secured solely by means extending through other of said openings.

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