

May 5, 1959

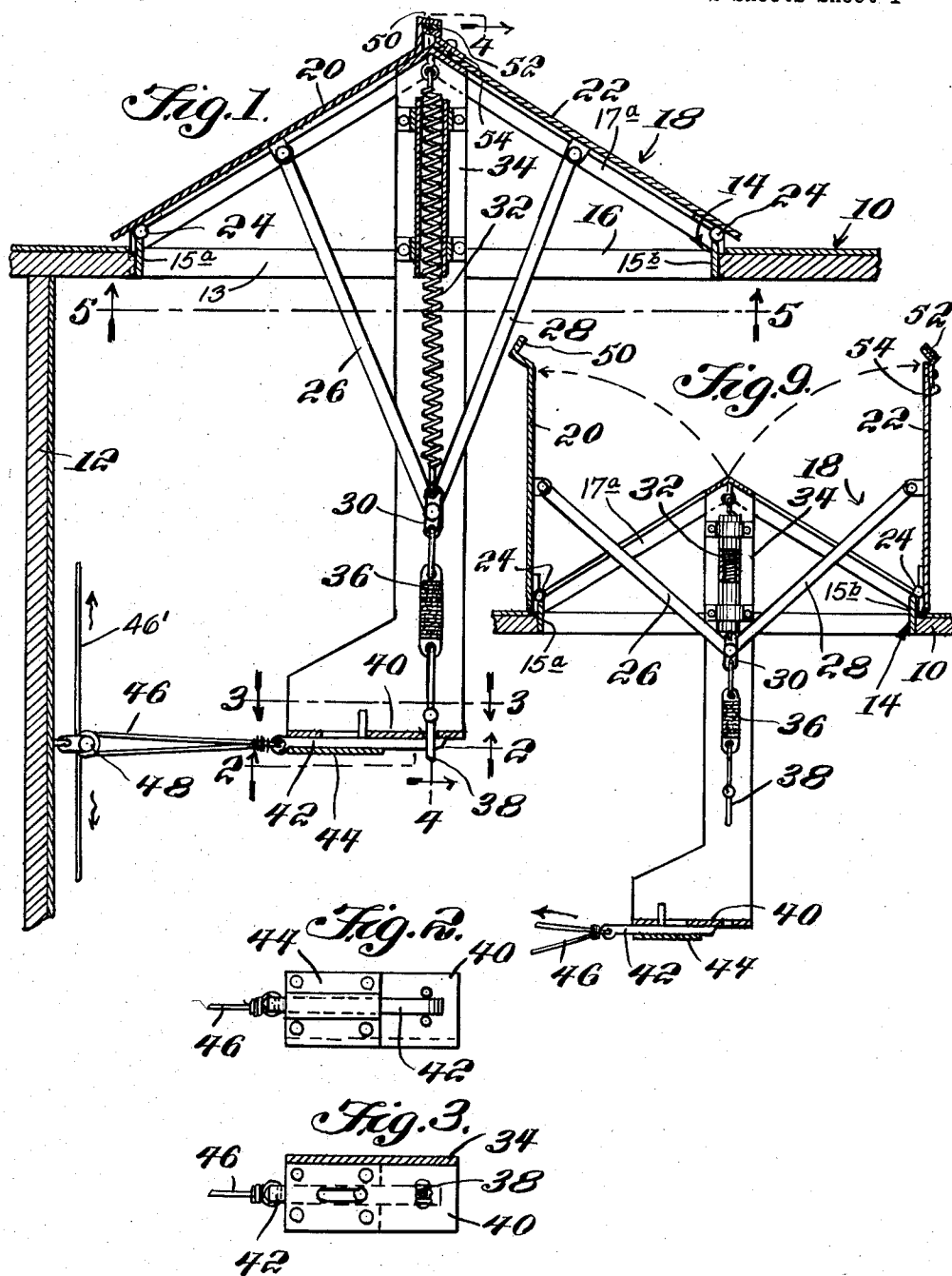
W. H. OTTO

2,884,847

VENTILATOR

Filed Aug. 30, 1957

2 Sheets-Sheet 1



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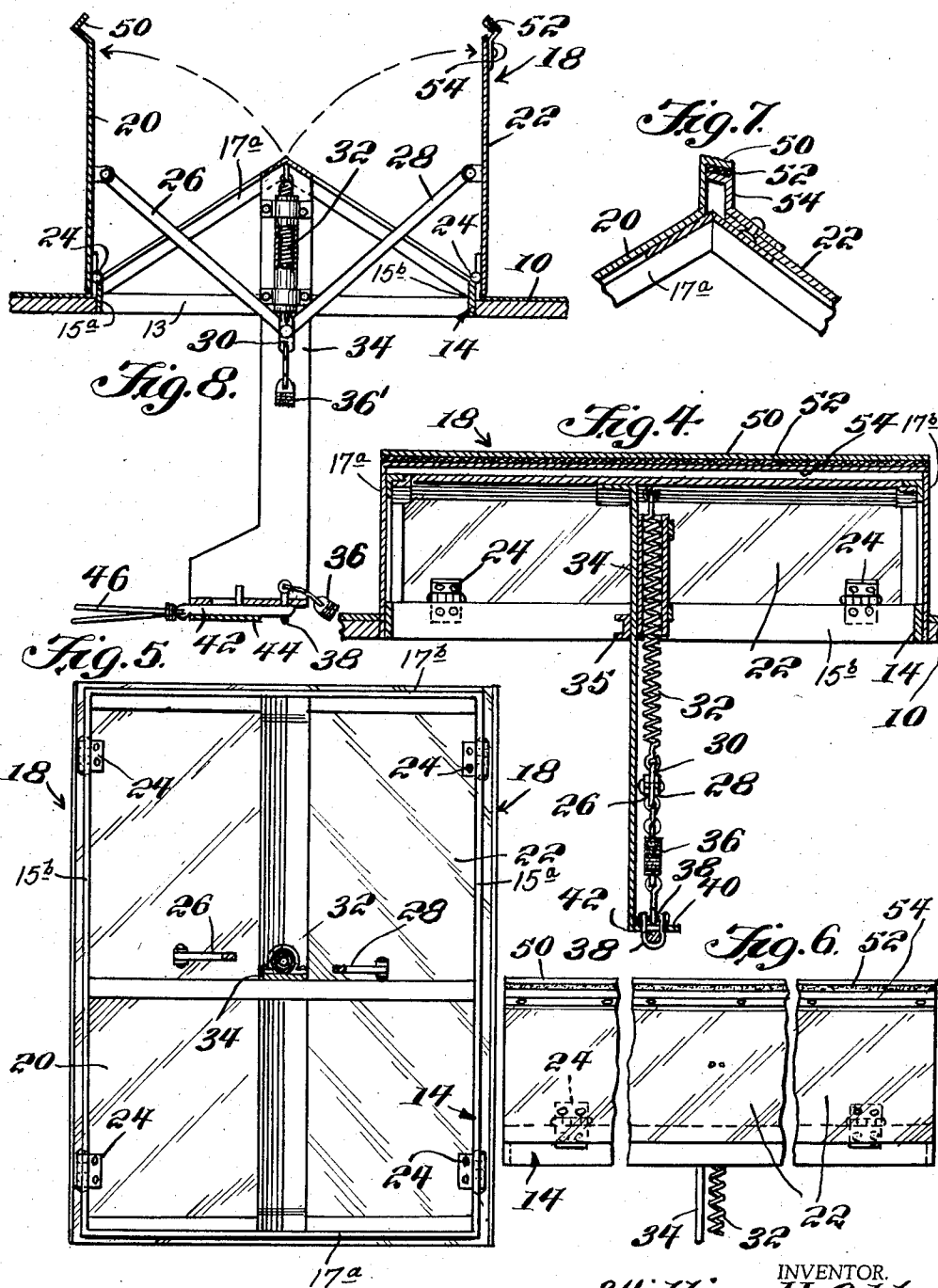
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VENTILATOR

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Application August 30, 1957, Serial No. 681,276

2 Claims. (Cl. 98—86)

The present invention relates generally to roof construction and specifically to a ventilator for installation in a roof.

An object of the present invention is to provide a ventilator for a roof structure which is movable to an open position upon an increase in temperature in the area below the roof.

Another object of the present invention is to provide a ventilator for a roof structure which is manually operable to an open position when desired.

A further object of the present invention is to provide a ventilator for a roof structure which is manually operable to an open position from a location remote from the ventilator.

A still further object of the present invention is to provide a ventilator for a roof structure which is sturdy in construction, simple in structure, and one which is economically feasible.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawings, in which:

Figure 1 is a fragmentary sectional view of a portion of a building roof structure, showing the ventilator of the present invention installed therein;

Figure 2 is a detailed plan view as seen on line 2—2 of Figure 1;

Figure 3 is a view similar to Figure 2, as seen on line 3—3 of Figure 1;

Figure 4 is a sectional view of the roof ventilator according to the present invention, the ventilator being shown in closed position;

Figure 5 is a view taken on the line 5—5 of Figure 1;

Figure 6 is a fragmentary side elevational view with portions broken away;

Figure 7 is a fragmentary sectional view on an enlarged scale, showing the sealing means of the two doors of the ventilator;

Figure 8 is a sectional view on a reduced scale showing the doors in their vertical position with the fusible link in broken condition; and

Figure 9 is a view similar to Figure 8, showing the doors in the vertical position when released by the hand actuable means.

Referring in greater detail to the drawings in which like numerals indicate like parts throughout the several views, a roof is designated by the reference numeral 10 in Figure 1 and is seen to extend over a portion of a building wall 12. The roof 10 has an opening extending therethrough with an upstanding wall structure 14 extending about the perimeter of the opening, the latter being designated by the numeral 13 in Figures 1 and 8. The wall structure 14 consists in a pair of oppositely relatively low walls 15a and 15b having horizontal parallel upper edges, and triangular walls 17a and 17b positioned with their vertices up between and connecting the adjacent ends of the walls 15a and 15b together.

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The ventilator of the present invention is designated by the reference numeral 18 and comprises a pair of doors 20 and 22 arranged in an upwardly closed relation and positioned so as to bridge the space defined by the wall structure 14 and having the lower spaced end connected by hinges 24 to the upper edges of the lower walls 15a and 15b for swinging movement from the closed position, Figure 1, to a vertical position, Figure 8.

Means is provided by the present invention connecting the doors 20 and 22 together for movement simultaneously from the closing position (Fig. 1) to the vertical position (Figs. 8 and 9) either responsive to an increase in temperature in the area below the roof 10 or in response to actuation of hand actuable means. Specifically, this means consists in a pair of actuator bars 26 and 28 positioned below the doors 20 and 22, respectively, and having one end pivotally connected to the adjacent door intermediate the ends of the latter, and the other ends of the bars 26 and 28 being pivotally connected together and to a link member 30.

Spring means is operably connected to the doors 20 and 22 for urging the latter to the vertical position. This spring means consists in a relatively long coil spring normally under tension and indicated by the reference numeral 32. The spring 32 has one end secured to the link member 30 and the other end secured to the upper end of an upright 34.

Fusible latch means is provided operatively connected to the doors 20 and 22 which when heated to a predetermined temperature is releasable, the latch means being designated by the reference numeral 36 and consisting in a link having one end connected to the link member 30 and having the other end connected by means of a length of cable to an eye formation 38 which partially projects downwardly through an opening provided in the flange 40 carried on the lower end of the upright 34 which rises from a structural support member (not shown) of the roof 10.

Releasable hand actuable latch means is provided by the present invention operatively connected to the doors 20 and 22 for holding the doors in the closed position. Specifically, this means consists in a horizontally disposed latch bar 42 slidably mounted on the other side of the flange 40 in a sleeve element 44 carried by the flange 40. The bar 42 is reciprocal relative to the flange 40 and may be withdrawn, as shown in Figure 9, from engagement within the eye formation 38 in which position it holds the actuator bars 26 and 28 in the downwardly sloping position and the associated doors 20 and 22 in the closed position. Upon release of the latch bar 42 from the position within the eye formation 38, the spring 32 contracts and the actuator bars 26 and 28 force the doors 20 and 22 to their vertical position. A cable 46 has one end connected to the latch bar 42 and extends over a pulley 48 carried on the building wall 12. The cable 46 is of such a length that it may extend to a location within the building accessible to the night watchman or other person charged with the custody and care of the building and its contents. The second cable 46' also has one end attached to the latch bar 42 and extends over the pulley 48 to another location in the building.

As shown in detail in Figures 6 and 7, the doors 20 and 22 are provided with a sealing interengaging means for their upper ends when in the closed position. This sealing means is weather-tight and consists in an inverted L-shaped projection carried on the door 20 and designated by the reference numeral 50. The underside of the short leg of the projection 50 is provided with a resilient strip 52 preferably fabricated of rubber or similar material. An upwardly directed flange 54 projects from the upper end of the door 22 and has a portion underlying the strip 52 in sealing engagement therewith.

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In Figure 8 the fusible link is designated by the reference numeral 36' and has been separated by the application thereto of an increase in temperature within the building in the area of the ventilator 18. In Figure 9 the bar 42 has been hand actuated to the released position for the purpose of opening the ventilator 18. Conventional means may be provided if desired for closing the ventilator 18 after the doors thereof had been swung to the upward or vertical position, such means not being shown as not being a part of the present invention.

While only a preferred embodiment of the present invention has been shown and described, other embodiments are contemplated and numerous changes and modifications may be made without departing from the spirit of the invention as set forth in the appended claims.

What is claimed is:

1. The combination with a roof having an opening extending therethrough, and a wall structure extending about the perimeter of said opening, said structure consisting of two opposite relatively low walls with horizontal parallel upper edges and a triangular wall positioned with the vertex up between and connecting each of the adjacent ends of said low walls together, a pair of doors arranged in an upwardly closed relation positioned so as to bridge the space defined by said wall structure and having their lower spaced ends hingedly connected to the upper edges of said low walls for swinging movement from the closed position to a vertical position, interengaging sealing means on the upper ends of said doors for holding the upper ends in sealed relation when in the closed position, means connecting said

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doors together for movement simultaneously from the closed position to the vertical position, said means comprising a pair of actuator bars positioned below said doors and each having one end pivotally connected to the adjacent door intermediate the ends thereof, a link member pivotally connecting the other ends of said bars, an upright member having a flange at the lower end, spring means operatively connected to said link member and to the upper end of said upright member urging said doors to the vertical position, and releasable latch means operatively connected to said flange on said upright and an eye formation secured to said link member and projecting downwardly through said flange for holding said latch means and doors in the closed position.

2. The structure according to claim 1 which includes in addition fusible link means operatively connected to said link member and said eye formations and separable when heated to a predetermined temperature for releasing said doors to the opened position.

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