

W. W. BIRNSTOCK.
 ROOF VENTILATOR.
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942,707.

Patented Dec. 7, 1909.

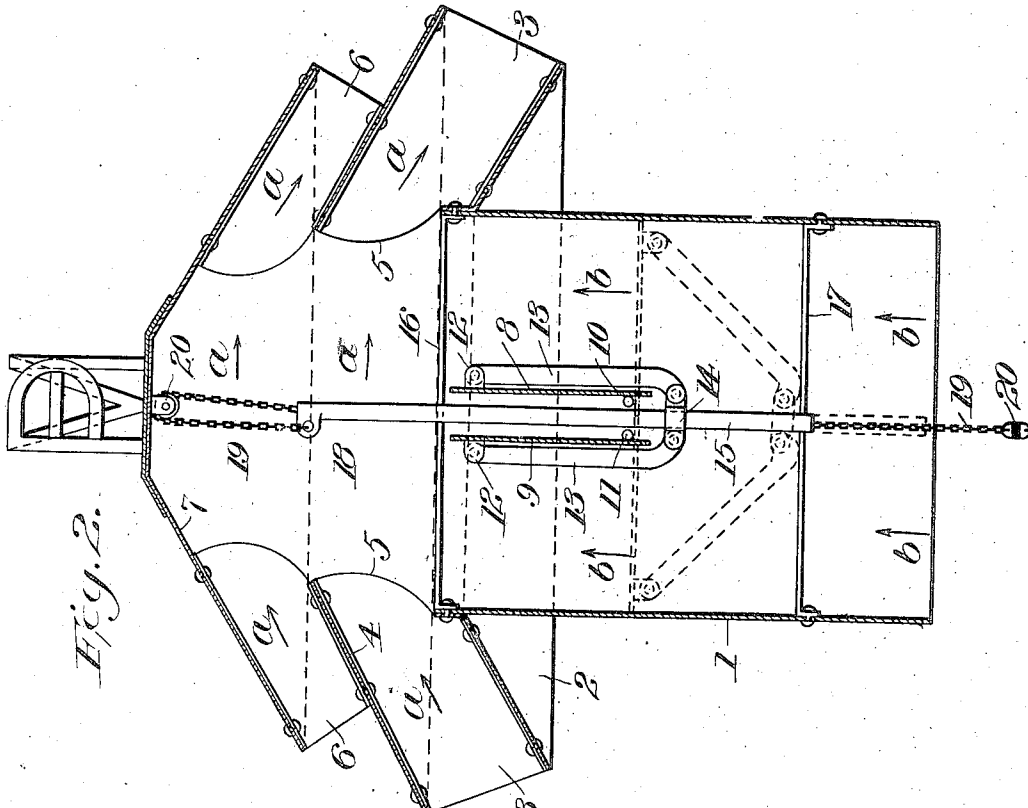


Fig. 2.

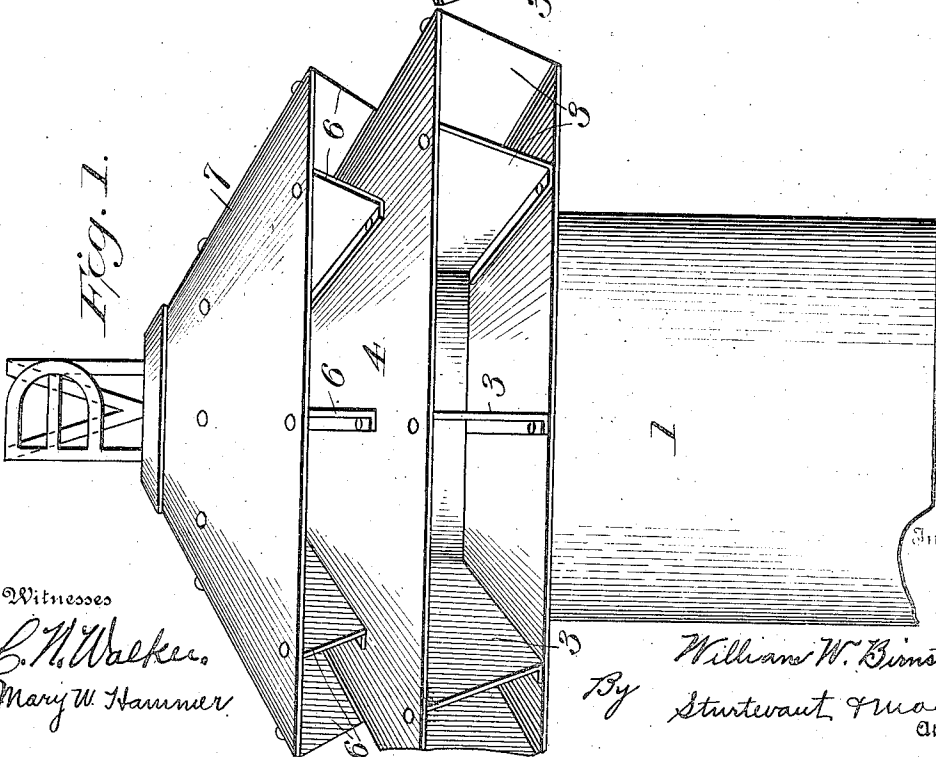


Fig. 1.

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WILLIAM W. BIRNSTOCK, OF YORK, PENNSYLVANIA, ASSIGNOR TO PULLMAN AUTOMATIC VENTILATOR MFG. COMPANY, OF YORK, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

ROOF-VENTILATOR.

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To all whom it may concern:

Be it known that I, WILLIAM W. BIRNSTOCK, a citizen of the United States, residing at York, in the county of York, State of Pennsylvania, have invented certain new and useful Improvements in Roof-Ventilators, of which the following is a description, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon.

My invention relates to new and useful improvements in roof ventilators and has for its object to provide a ventilator which shall be simple in operation and durable in construction.

A further object of the invention is to provide a roof ventilator with a closing damper which may be operated to control the ventilation, and which may be automatically operated to close the ventilator in case of fire.

These and other objects will in part be obvious and will in part be hereinafter more fully described.

In the drawings which show by way of illustration, one embodiment of my invention: Figure 1 is a perspective view of my improved ventilator. Fig. 2 is a longitudinal sectional view through the same.

The body portion 1 of my ventilator is as herein shown cylindrical in shape, and is adapted to be attached in any suitable way to the roof of the building which it is desired to ventilate. At the top of the cylindrical portion 1, is an upwardly extending conical shaped flange 2, which is riveted to the upper end of the body portion 1 of the ventilator. Said flange extends downwardly and outwardly away from the body portion of the ventilator. I have provided the flange 2, with a plurality of radial and vertical plates, 3, 3, which are riveted to the flange or secured thereto in any suitable way. Said plates 3, 3, are spaced about the flange preferably an equal distance. A conical shaped plate 4, rests upon the upper edges of the plates 3 and is riveted thereto. The conical plate 4 is arranged substantially parallel with the plate 3 and has a central opening slightly less in diameter than the diameter of the cylindrical body portion 1. It is obvious however, that the exact proportions of the opening in the plate 4 are immaterial. The inner edges of the plates 3 are curved

preferably as shown in the drawings. I have also provided a plurality of radial and vertical plates 6, which are preferably disposed directly over the plates 3 and are riveted to the conical plate 4, although said plates 6 may be staggered relative to the plates 3.

Mounted on the plate 6 is a cap 7, which as shown in the drawings, is flat at the central portion and is then bent downward to form a conical shaped plate similar to the shape of the plate 4. Said cap 7 may however, be pointed at the top.

It will thus be seen that I have provided a ventilator which has a central cylindrical opening leading into the top portion and the top portion is constructed so as to provide radial passages extending outwardly and downwardly. These passages allow a free circulation of the air into the ventilator, across the top of the cylindrical body portion and out of the ventilator at the opposite side as shown for example, by the arrows *a* in Fig. 2. This movement of the air through the top of the ventilator causes a very strong upward draft through the cylindrical body portion of the ventilator in the direction of the arrows indicated at *b*. It will readily be seen therefore, that the suction caused by the passage of the air through the top of the ventilator will aid greatly in ventilating a room with which my ventilator communicates.

As a means for controlling the opening in the cylindrical body portion, I have provided two semi-cylindrical dampers 8 and 9. These dampers are carried by pivoted rods 10 and 11 at their lower ends as shown in Fig. 2. At the upper ends each of the dampers carries an ear 12, which is pivoted to an arm 13 which in turn is pivoted to a collar 14 rigidly secured to a tube 15. The tube 15 extends through the tube guide plates 16 and 17, which operate to guide the rod or tube in a vertical direction. It will readily be seen that when the tube is raised the collar 14 is raised and through the arms 13, the dampers are lifted to the position shown in Fig. 2. If the tube 15 should be lowered, the collar 14 will move downward allowing these dampers to move down into the position shown in dotted lines in Fig. 2. In this position, the lower ends of the arms 13 rest against the guide rod 17

and holds the dampers in a horizontal position thus closing the opening through the body portion of the ventilator.

As a means for operating the tube 15, I have provided the upper end thereof with an ear 18 to which is connected a chain 19. The chain 19 extends over a pulley 20 secured to the cap 7, and thence downward through the tube 15. The chain extends down to a convenient place where the same may be operated so as to lift the tube 15 or lower the same, said chain being secured to any suitable stationary object to hold the dampers open. If the chain should be released the weight of the tube 15, the arms 13, and the dampers 12, will cause the dampers to immediately and quickly close. I have provided the chain 19 with a fusible link 20. In case of a fire, when the dampers are open, the forced draft through the ventilator would quickly carry the flames up around the fusible link 20 which would fuse and release the upper portion of the chain so that the dampers would immediately close and thus close all draft through the ventilator.

Having thus particularly described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A roof ventilator including in combination a body portion forming a central passage, dampers for closing said body portion, a tube extending above and below said dampers for controlling the position of said dampers and means for moving said tube comprising a flexible member, extending through said tube.

2. A roof ventilator including in combination a body portion, having a central passage therethrough, a cap secured above said body portion, radial plates between said cap and said body portion for forming radial

passages for the movement of the air above said body portion, pivoted dampers located in said body portion for closing the passage therethrough, a chain for raising and lowering said dampers, said chain having a fusible link therein.

3. A roof ventilator including in combination, a body portion including a central passage therethrough, dampers for closing the passage through said body portion, arms secured to said dampers, a tube extending above and below said dampers centrally thereof to which said arms are pivoted, and a chain for raising and lowering said tube extending through said tube.

4. A roof ventilator including in combination a body portion, dampers for closing the opening in said body portion, a pivotal support located at the inner sides of said dampers, ears carried by the outer ends of said dampers, arms pivoted to said ears, a tube, a collar carried by said tube to which said arms are pivoted, a chain secured to said tube, a pulley over which said chain passes, and a fusible link formed in said chain.

5. A roof ventilator including in combination a cylindrical body portion, spaced guide rods carried by said body portion, a central tube guided by said guide rods, dampers located between said guide rods, arms pivoted to said dampers, a collar carried by said tube to which said arms are pivoted, and means for raising and lowering said tube.

In testimony whereof I affix my signature, in presence of two witnesses.

WILLIAM W. BIRSTOCK.

Witnesses:

O. A. LAU,

THOS. B. LOUCKS.