J. M. ROSE.

VENTILATOR.

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**1,063,068.** Patented May 27, 1913.

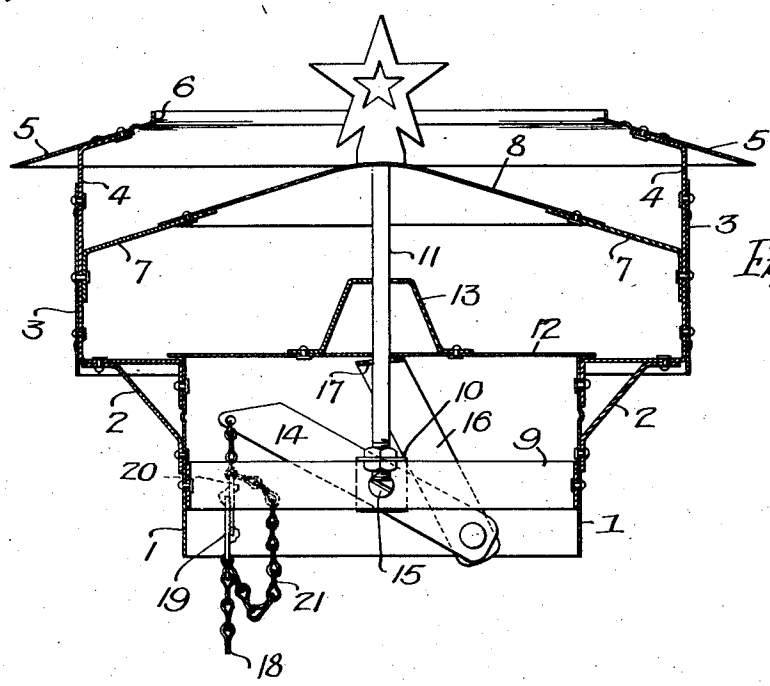



Fig. 1.

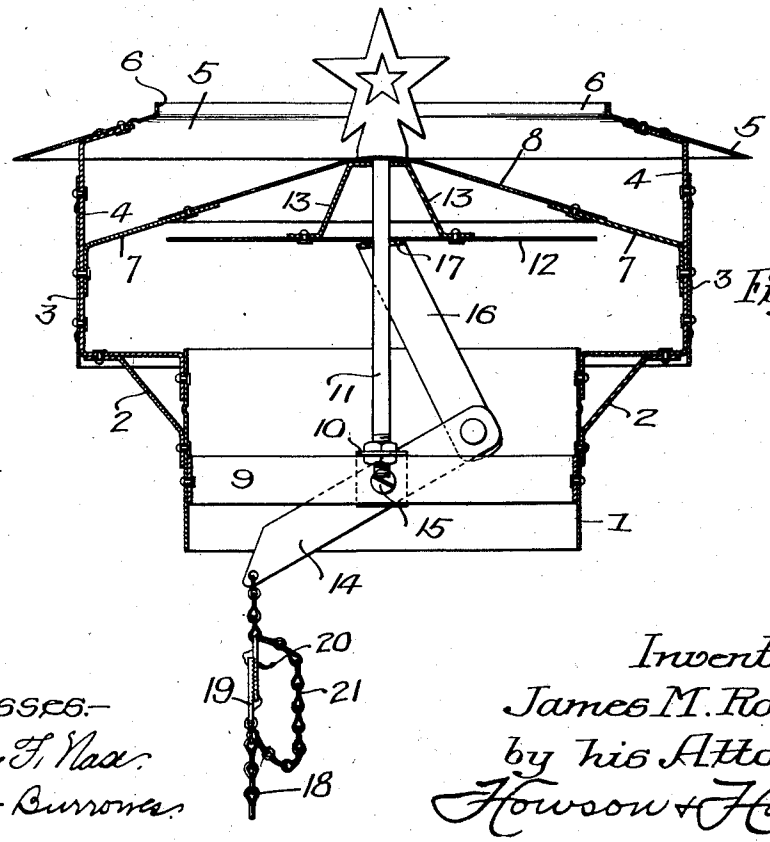



Fig. 2.

Witnesses:-
William F. Nax.
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by his Attorneys:-
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# UNITED STATES PATENT OFFICE.

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## VENTILATOR.

1,063,068. Specification of Letters Patent. Patented May 27, 1913.

Application filed August 15, 1912. Serial No. 715,259.

*To all whom it may concern:*

Be it known that I, JAMES M. ROSE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Ventilators, of which the following is a specification.

One object of my invention is to provide a ventilator with a novel form of valve and operating mechanism therefor, of such a construction as to automatically close whenever the temperature of the air in its immediate vicinity rises above a pre-determined point; the arrangement of parts being such, however, as to permit of the manual operation of the valve after it has automatically closed as well as before such operation.

I further desire to provide a ventilator of the above noted type which shall have its parts so combined that their action shall be certain, and their number small while the apparatus itself shall be simple and substantial as to its design and structure, as well as inexpensive to manufacture.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings in which,

Figure 1 is a vertical section illustrating the detail construction of a ventilator embodying my invention, the valve being shown in its closed position, and Fig. 2 is a vertical section similar to Fig. 1, but showing the valve in its open position.

In the above drawings, 1 represents a cylindrical body of sheet material on the outside surface of which are fastened brackets 2, designed to support a second cylindrical sheet metal structure 3. This latter is of larger diameter than the casing 1 and is above, although concentric with the same.

In the present instance the brackets 2 are made of heavy strips of metal which are extended above the side member 3, as indicated at 4, and are turned over so as to serve for the support of an annular top piece 5 which is carried immediately above the side member 3. The brackets are also provided with inwardly extending branches 7 serving to support a conical cover 8 whose top is slightly above the plane of the top edge of the side member 3 while its outer edges lie below this plane, and beyond the lines of the body 1. Extending horizontally across this latter is a brace or tie rod 9 having an angle piece 10, mounted at substantially its central part, and serving with the cover 8 as the supporting means of a rod 11 which extends in the central line of the ventilator. The lower end of this rod is preferably threaded and provided with a pair of nuts on opposite sides of the angle piece 10 so that it may be made to rigidly connect the said cover and the brace 9. Slidably mounted on this rod is a disk 12 of sheet metal of such a diameter as to extend slightly beyond the upper edges of the cylindrical body 1, on which it rests when in its lower or closed position. I further provide a guide piece 13 on top of this disk valve designed to prevent tilting thereof as it is moved up or down on the rod 11.

For operating the valve, I provide a lever 14 fulcrumed on the screw 15, whereby the angle piece 10 is held to the brace 9, and having pivoted to one end a bar forming a link 16 whose upper end is turned over as shown at 17. This end is provided with an opening through which passes the central rod 11; it being noted that said opening is of sufficient diameter to permit of the link 16 freely sliding on said rod when the lever 14 is turned on its pivot or fulcrum 15. The length of the said link 16 is such that when the lever 14 is in the position shown in Fig. 1, in a line at about 30 degrees to the horizontal, the turned over end 17 is in engagement with, or immediately adjacent to, the under side of the valve disk 12.

The end of the lever 14 opposite that having the link 16 has attached to it a chain 18, to two of whose widely separated links are connected the two parts 19 and 20 of a fusible link or temperature responsive connection, the arrangement being such that when these two parts are connected together by fusible metal in the well known manner the chain between them is formed into a loop 21 of such length as to permit movement of the valve from its open to its closed position without requiring other slacking off of the chain.

Under conditions of use the valve disk 12 may be moved to its raised or open position by a downward force exerted on the chain 18 and transmitted through the parts 19 and 20 of the fusible link to the lever 14. Such force turns the lever from the position

shown in Fig. 1, to that shown in Fig. 2, and thus pushes upwardly on the link 16, raising the valve disk 12 until it strikes the under side of the cover 8. If at any time the temperature of the air adjacent the opening into the cylindrical body 1, should rise above a pre-determined point, as by a fire whose products of combustion pass out through the ventilator, the fusible metal connecting the parts 19 and 20 of the link would melt, thus releasing the end of the lever 14 so that under the action of gravity on the valve disk 12 and link 16, the lever 14 would be returned to the position shown in Fig. 1, and said valve disk would seat on the upper end of the cylindrical body 1.

With the above described arrangement of parts, the possibility of the valve sticking so as to remain in its open position after the fusible link has melted, is reduced to a minimum and in addition it will be noted that the valve is still connected to the operating chain even after the fusible link has permitted closing of said valve. Moreover the valve operating means formed by the chain, lever 14 and link 16, are of the simplest and most inexpensive character so that the application of the device to ventilators, especially those of the well known type, is neither costly nor inconvenient.

I claim—

1. The combination with a ventilator having a body conduit; of a movable valve formed to seat on said conduit; and operating means for the valve consisting of a lever; a link connected to said lever and loosely engaging the valve, and means for turning the lever on its fulcrum.

2. The combination with a ventilator having a body conduit, of a movable valve formed to seat on said conduit; a member extending across said conduit; a lever pivoted on said member; a link connected to the lever and loosely engaging said valve; and means for actuating the lever.

3. The combination with a ventilator having a body conduit and a vertical guide bar; of a valve slidable on said guide bar; a link having on one end slidable on the guide bar and engaging the valve; a lever pivoted to said link; and means for actuating the lever.

4. The combination with a ventilator having a substantially cylindrical body conduit of a valve formed of a substantially flat sheet of metal mounted to seat on one end of said conduit; a rod supported by said body conduit and passing through the valve so as to guide the same; with a device for raising and lowering said valve consisting of a link having one end guided on the rod and loosely engaging the valve; a cross bar carried by the body conduit; a lever fulcrumed to said bar and having one end pivoted to said link; and operating means connected to the other end of the lever.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JAMES M. ROSE.

Witnesses:

WILLIAM E. BRADLEY,

WM. A. BARR