

April 29, 1924.

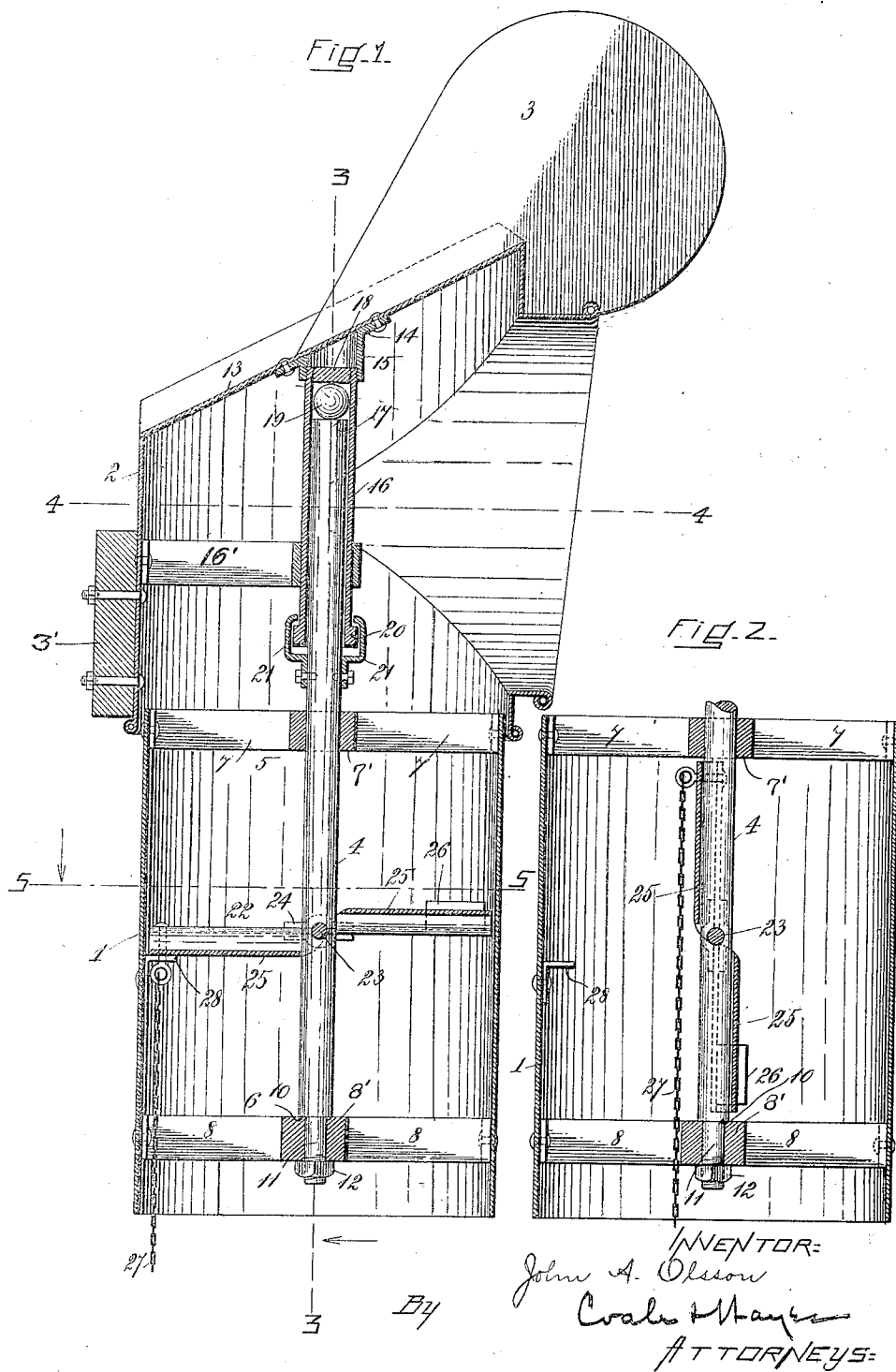
J. A. OLSSON

1,492,310

VENTILATOR

Filed June 5, 1920

2 Sheets-Sheet 1



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FIG. 3.

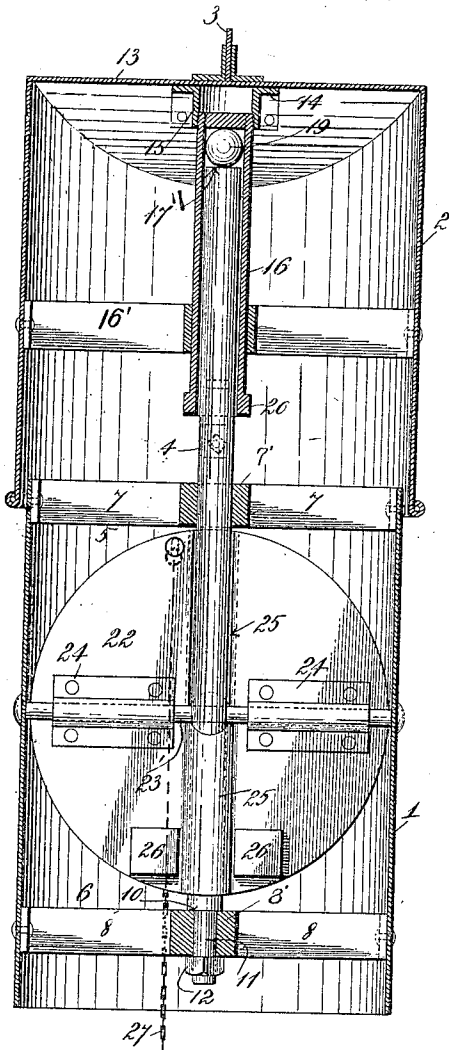


FIG. 4.

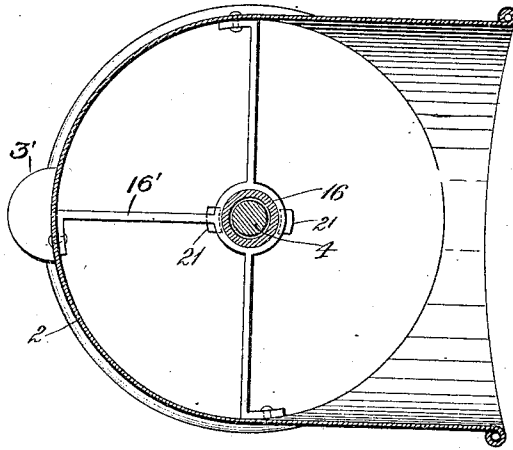
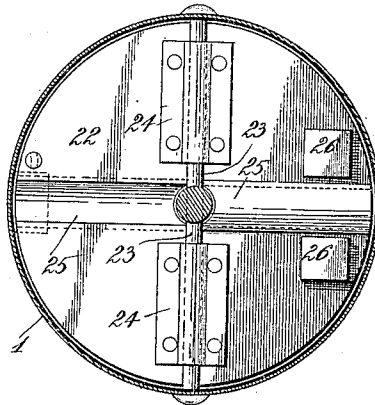


FIG. 5.



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UNITED STATES PATENT OFFICE.

JOHN A. OLSSON, OF ATLANTIC, MASSACHUSETTS.

VENTILATOR.

Application filed June 5, 1920. Serial No. 386,734.

To all whom it may concern:

Be it known that I, JOHN A. OLSSON, of Atlantic, in the county of Norfolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Ventilators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The present invention relates to an improvement in ventilators and one essentially of that type having a rotary head or cowl.

The invention essentially pertains to the manner in which the passage or opening through the body of the ventilator is controlled with the object of obtaining economy in construction, increased wearing properties, facility of operation and efficiency in point of control.

The invention can best be seen and understood by reference to the drawings in which—

Figure 1 is a vertical section of the ventilator with the damper controlling the passage through it occupying a closed position.

Fig. 2 is a vertical section of the body of the ventilator with the damper occupying an open position.

Fig. 3 is a section on the line 3—3 of Fig. 1 excepting that the damper is occupying an open position.

Fig. 4 is a section on the line 4—4 of Fig. 1, and

Fig. 5 is a section on the line 5—5 of Fig. 1.

Referring to the drawings:—

1 represents the body of the ventilator generally cylindrical in form and attachable to any suitable base of support (not shown).

2 represents the rotary head or cowl of the ventilator which has an opening in the side and is provided with a vane or wing 3 and a counterbalancing weight 3' for controlling its movement in the usual manner.

The head overlaps the body of the ventilator at the top and is mounted to rotate relatively to the body in the following manner: Centrally located within the body of the ventilator is a post or upright 4. This post is fixed to the body by sets of braces 5 and 6, respectively, preferably disposed adjacent the upper and lower ends of the body. The upper brace 5 consists of a series of radial arms 7 connected at their

outer ends to the interior wall of the body and at their inner ends with a ring 7' which tightly embraces the post 4. At the bottom the brace 6 likewise consists of radially-extending arms 8 connecting at their outer ends with the interior wall of the body of the ventilator and at their inner ends with a ring 8'. The lower end of the post is provided with a shoulder 10 which bears against the top side of the ring 8'. Beyond the shoulder the post is provided with an extension 11 of reduced diameter which extends through the ring 8' and below the same. Threaded upon the end of the extension 11, thus projecting, is a nut 12 which when tightened bears against the under side of the ring and thereby fixes the post to the ring against endwise displacement.

The post 4 thus fixed to the body of the ventilator extends upwardly into the head and occupies a central or axial position with relation to the head. The head is mounted to rotate on the post 4 as follows: Fixed to the interior wall 13 of the head is a cleat 14 provided with a downwardly-projecting annular flange 15 which lies above the top end of the post and in alignment with it. Threaded into the end of this flange in extension thereof is a sleeve 16 which extends downwardly and loosely embraces the post. The sleeve is otherwise held securely in place by means of braces consisting of radial arms 16' connecting with the interior side wall of the head or cowl. The sleeve extends for some considerable distance over the post preferably to a point not far removed from the bottom of the head in order that the sleeve may provide a long lateral bearing for the post. Fixed within the sleeve at the top end thereof, preferably by a threaded connection, in line with the top end surface 17 of the post is a plug fixture 18. Between the top end 17 of the post and the fixture 18 is arranged a friction bearing consisting of a single ball 19 on which the head turns relatively to the post and body of the ventilator. At its lower end the sleeve 16 is provided with an out-turned annular flange 20. Fixed to the post below the bottom end thereof are keepers 21 in the nature of hooks which extend upwardly around the flange 20 and act to hold the head onto its bearing by preventing lifting or endwise displacement thereof.

The opening or passage through the ven-

tilator is controlled by a damper 22 located in the body. The damper is mounted to turn upon a crossrod 23 which extends through the post and through the opposite side walls of the body, the ends of the rod being headed against the exterior face of the body for fixing the rod in place. For mounting the damper to turn upon the crossrod there are employed grooved or channel plates 24 secured to the damper on opposite sides of the post by riveting or otherwise. When closed the damper occupies a position crosswise the opening at right angles to the post. When open the damper is arranged to occupy a position in the plane of the post. For this purpose the damper is provided on opposite sides thereof with outstanding ribs or offsets 25 presenting an interior curvature substantially like that of the post to enable them to fit around or envelop the post when the damper is turned to occupy its open position. In this connection it will be observed that the offsets project in opposite directions from the opposite sides of the damper corresponding as one side turns upwardly to fold against the post above its axis and the other turns downwardly to fold against the post below its axis. The damper is also sufficiently cut away at the centre between the inner ends of the offsets 25 as will enable the damper to turn freely without interference with the post, such incision, however, being so little as to leave an inappreciable opening when the damper is closed.

The damper is normally maintained to occupy an open position by means of an overbalance or weight 26 on one side thereof and is drawn to a closed position by means of a chain 27 fixed to the opposite side thereof, a stop 28 defining the closed position of the damper.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States:—

1. In a ventilator of the type specified having a rotary head and a body with opening therethrough, a post centrally disposed within the body for supporting said rotary head, means for fixing the post to the body, a damper within the body for controlling the opening therethrough, means for mounting the damper to turn within the body and assume therein a closed position substantially at right angles to the post or an open position substantially in the plane of the post, said damper being pro-

vided on opposite sides thereof with offsets which fit around the post when the damper is occupying its open position as aforesaid, and means for controlling the damper.

2. In a ventilator of the type specified having a rotary head and a body with opening therethrough, a post centrally disposed within the body for supporting said rotary head, means for fixing the post to the body, a damper within the body for controlling the opening therethrough, a rod extending through said post providing a mounting for the damper, said damper being provided with offsets on opposite sides thereof oppositely arranged whereby the damper may lie substantially in the plane of said post and the offsets thereof fit around the post when the damper is occupying its open position, and means for controlling the damper.

3. In a ventilator of the type specified having a rotary head and a body with opening therethrough, a post centrally disposed within the body for supporting said rotary head, means for fixing the post to the body, a damper within the body for controlling the opening therethrough, a rod on which said damper is mounted to turn, said rod extending crosswise said body and through said post with the ends of the rod fixed to the opposite side walls of said body, means for mounting the damper to turn on said rod, said damper being incised at the centre and provided on opposite sides thereof with offsets oppositely disposed whereby the damper may assume substantially a position in the plane of said post, the offsets thereof fitting around the post when the damper is in its open position, and means for controlling the damper.

4. In a ventilator of the type specified having a rotary head and a body with opening therethrough, a post centrally disposed within the body for supporting said rotary head, means for fixing the post to the body, a damper located in the body for controlling the opening therethrough, means for mounting the damper to turn within the body and assume therein either a closed or an open position, said damper being provided with offsets on opposite sides thereof oppositely arranged with an incision between said offsets whereby the damper may turn freely with relation to said post and lie when open substantially in the plane of said post, means for overweighting the damper to occupy normally a closed position, and means for opening the damper.

JOHN A. OLSSON.