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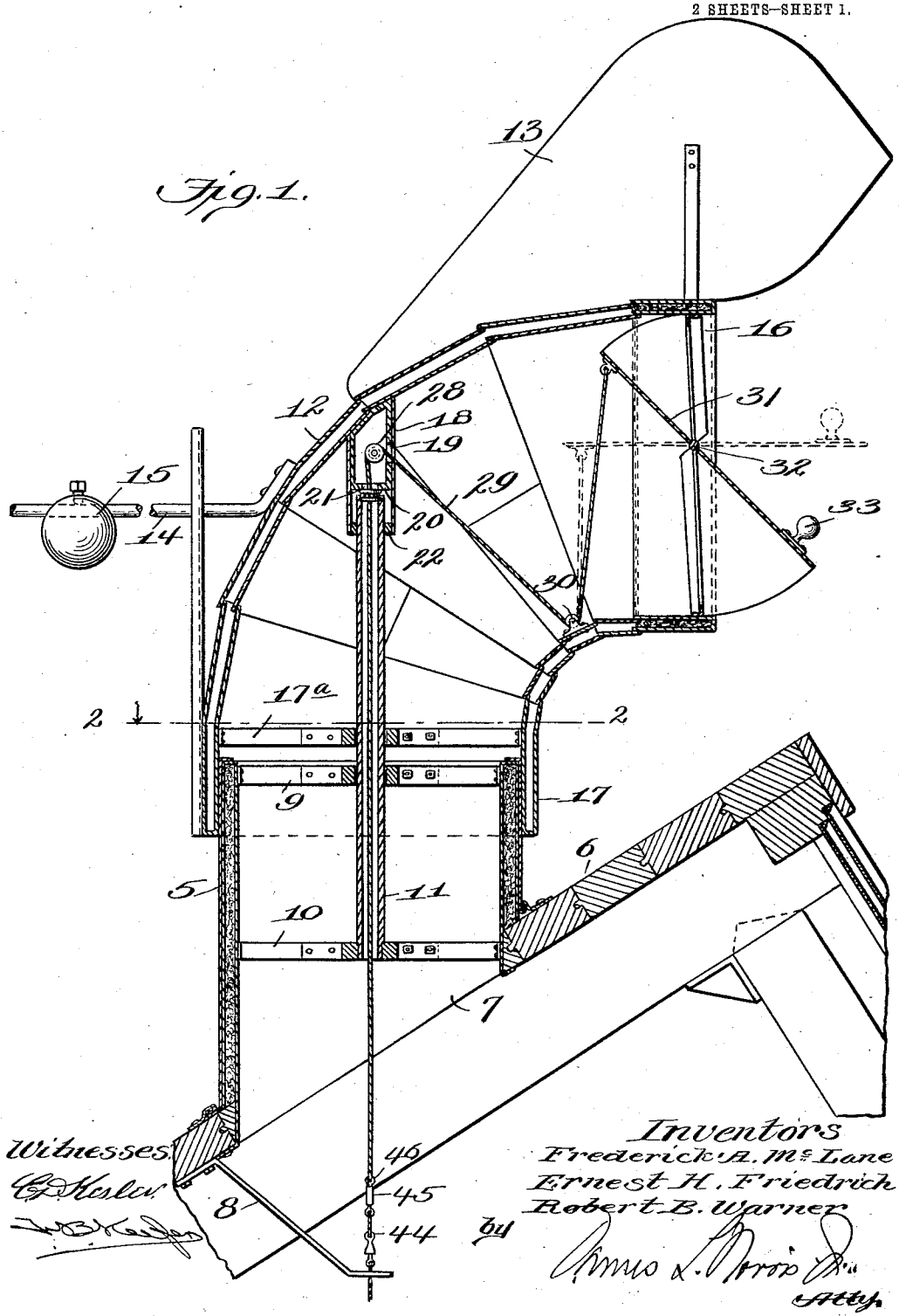
VENTILATOR.

APPLICATION FILED MAY 4, 1912.

1,077,847. Patented Nov. 4, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

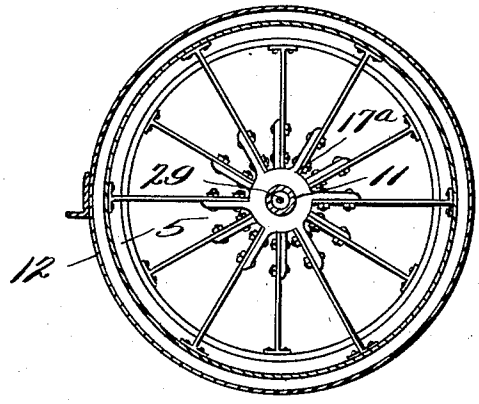


Fig. 3.

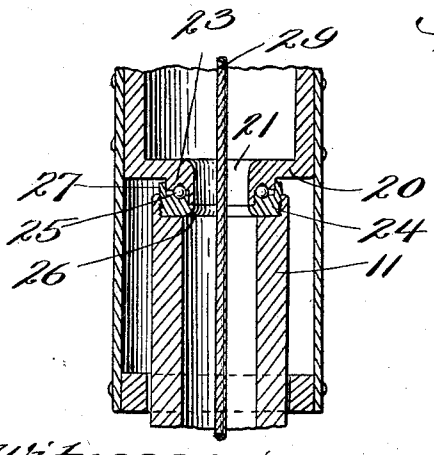
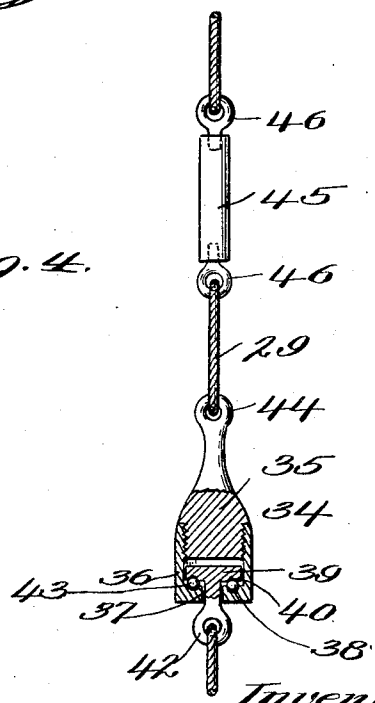


Fig. 4.



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UNITED STATES PATENT OFFICE.

FREDERICK A. McLANE, ERNEST H. FRIEDRICH, AND ROBERT B. WARNER, OF HOLYOKE, MASSACHUSETTS.

VENTILATOR.

1,077,847. Specification of Letters Patent. Patented Nov. 4, 1913.

Application filed May 4, 1912. Serial No. 695,192.

To all whom it may concern:

Be it known that we, FREDERICK A. McLANE, ERNEST H. FRIEDRICH, and ROBERT B. WARNER, citizens of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Ventilators, of which the following is a specification.

This invention relates to ventilators for chimneys or flues and particularly to that class known as cowls, wherein a rotatable member is adapted to be revolved to automatically regulate the draft.

The primary object of the invention is to provide a ventilator or cowl having means for automatically closing or sealing the same to shut off the outside atmosphere.

A further object of the invention is to provide a ventilator or cowl having means for closing or sealing the same from the outside atmosphere and embodying a device which is fusible in case of fire and operative to release an outside damper and prevent draft through the cowl or ventilator.

A still further object of the invention is to generally improve the operation of ventilators or cowls and the means for controlling an outside damper, and to always maintain the several parts in reliable operative condition.

With these and other objects and advantages in view the invention consists in the construction and arrangement of the several parts which will be hereinafter described in preferred form and the essential features constituting the invention specified in the appended claims.

In the drawings: Figure 1 is a vertical sectional view of the ventilator or cowl and a portion of a roof, the ventilator or cowl embodying the features of the invention. Fig. 2 is a horizontal section taken in the plane of the line 2—2, Fig. 1. Fig. 3 is an enlarged detail sectional view of a portion of the device. Fig. 4 is an enlarged detail sectional elevation showing the swivel and fusible link of the damper controlling cord or cable.

The numeral 5 designates a stationary tubular support or member adapted to be fixed to a roof 6 over a ventilating opening 7, a guide arm 8 depending from the roof adjacent to said opening for a purpose which will be presently explained. The fixed cylindrical support 5 may be of any preferred construction, and has arranged interiorly thereof upper and lower spiders 9 and 10, and in the center of the lower spider 10 the lower end of a tubular post or upright 11 is stepped, the said post extending upwardly through the spider 9 and terminating any suitable or desirable distance above the upper end of the cylindrical support 5. Coöperating with the cylindrical support 5 is the usual form of hood or rotatable member 12 provided with a top vane 13, a horizontal arm 14 on which a weight 15 is adjustably mounted and also formed with the ordinary opening or inlet 16. The lower extremity 17 of the hood rotatably embraces the upper extremity of the cylindrical support 5 and is free to rotate on the latter as in the usual cowl constructions, and is also provided with a spider 17^a above the upper end of the support 5 and through which the post 11 extends. Depending from the interior of the hood and in alinement with the post 11 is a socket member 18 which is of hollow form and has an opening 19 in the side nearest the opening 16 of the hood and is also provided with a horizontal partition 20 with an opening 21 therethrough and a lower space collar 22 which fits over the upper extremity of the post 11. As shown by Fig. 3, the horizontal partition 20 has a depending flange 23 surrounding the opening 21, and in the upper end of the post 11 an annular bearing member 24 is secured, the contiguous faces of the flange 23 and the annular member 24 having suitable grooves or races therein to receive balls 25. The inner portion of the flange 23 and the outer portion of the annular member 24 are provided with reversely extending auxiliary flanges 26 and 27 which inclose the grooves or race-ways for the balls 25 and by this means said balls are retained in place. This construction and arrangement of flanges and balls provide a thrust ball bearing which renders the operation of the hood very easy and without friction relatively to the post 11. In the upper part of the socket member 18 adjacent to the opening 19 a guide sheave or pulley 28 is mounted, and trained thereover is a pull-cord or cable 29 which passes through the opening 19 and after engaging the said guide sheave or pulley 28 extends downwardly through the

opening 21, the annular collar 24, and the post 11 and continues through the opening 7 and through the lower extremity of the guide 8. From the socket 18 the cord or cable 29 is directed downwardly toward the bottom of the hood 12 and passes over a guide sheave or pulley 30 and from the latter extends upwardly to the upper inner portion of a damper 31. The damper 31 is eccentrically fulcrumed as at 32, the greater portion of the damper being below its fulcrum and having thereon a weight device 33 which will insure the automatic closing of the damper when released by the cord or cable 29.

To prevent twisting of the cord, cable or chain 29 it is provided at an intermediate point with a ball bearing swivel 34, clearly shown by Fig. 4, and consisting of a head 35 provided with a socket member 36 having a central opening 37 and separably attached to the head. The socket member 36 is formed with a ball race 38, and movably fitted within the said socket member is a coupling head 39 also having a ball race 40 and a shank 41 movably extending through the opening 37 and terminating in an eye 42 at its lower end. Between the head 39 and socket member and engaging the ball races 40 and 38 is a plurality of balls 43. The upper end of the head 35 is also formed with an eye 44 and the cord, cable or chain 29 has its members attached to the eyes 42 and 44. The ball bearing swivel as just explained prevents the cord, cable or chain from twisting, and the turning of the ventilator in opposite directions does not in the least affect the said cord, cable or chain. The cord, cable or chain 29 also embodies an intermediate fusible device which will serve as means for automatically releasing and closing the damper 31 in the event of fire and thereby shut off all draft through the ventilator or cowl. This fusible means embodies a fusible link 45 having eyes 46 secured in opposite ends and to which the portions of the cord, cable or chain are attached.

From the foregoing the operation of the device will be readily understood, and the damper 31 may be set at any angle between vertical and horizontal positions so as to regulate the opening 16 and the draft or ventilation by means of the hood 12 and cylindrical support 5. In setting the damper the cord, cable or chain 29 is drawn downwardly any distance desired and in accordance with the amount of ventilation desired and is held taut by being suitably secured within the building. The damper may be released at any time by slackening the cord, cable or chain 29 and will automatically close by reason of the eccentric mounting of the same and the weight device 33. In the event of fire the link 45 will be melted or fused and the cord, cable or chain thereby slackened and the damper released, thus permitting the latter to automatically close. In fact the damper 31 automatically closes under all conditions when the cord, cable or chain is slackened sufficiently to permit a closing operation thereof. The improved ventilator will be found exceptionally convenient and advantageous in its operation, and it will be understood that the proportions, dimensions and minor details may be modified without departing from the spirit of the invention.

What is claimed is:

1. In a ventilator of the class specified, the combination with a fixed tubular support, a head rotatably mounted on the said support, a tubular post rising from the support and extending upwardly into the head, the post being free of engagement relatively to the head, a hollow socket depending from the head and having the upper end of the post movably extending into the lower portion thereof, a damper mounted in the head and controlling communication of the latter with the atmosphere, and a pull-device attached to the damper and extending into and downwardly through a portion of the socket and also through the post to a point below the tubular support, an anti-frictional bearing being interposed between the upper extremity of the post and the adjacent portion of the socket.

2. A ventilator of the class specified, a fixed tubular support and a head rotatably mounted on said support and having a gravitating damper in the open end thereof, combined with a tubular post rising from the support and extending upwardly into the head, a hollow socket depending from the head and loosely engaging over the upper end of the post, the tube and socket unitedly forming guide means, and a pull device extending upwardly through the post and a portion of the socket to the center of rotation of the head and projecting outwardly through the side of said socket and downwardly to and loosely engaging the lower portion of the head and thence continuing upwardly and attached to the top portion of the damper.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

FREDERICK A. McLANE.
ERNEST H. FRIEDRICH.
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."