

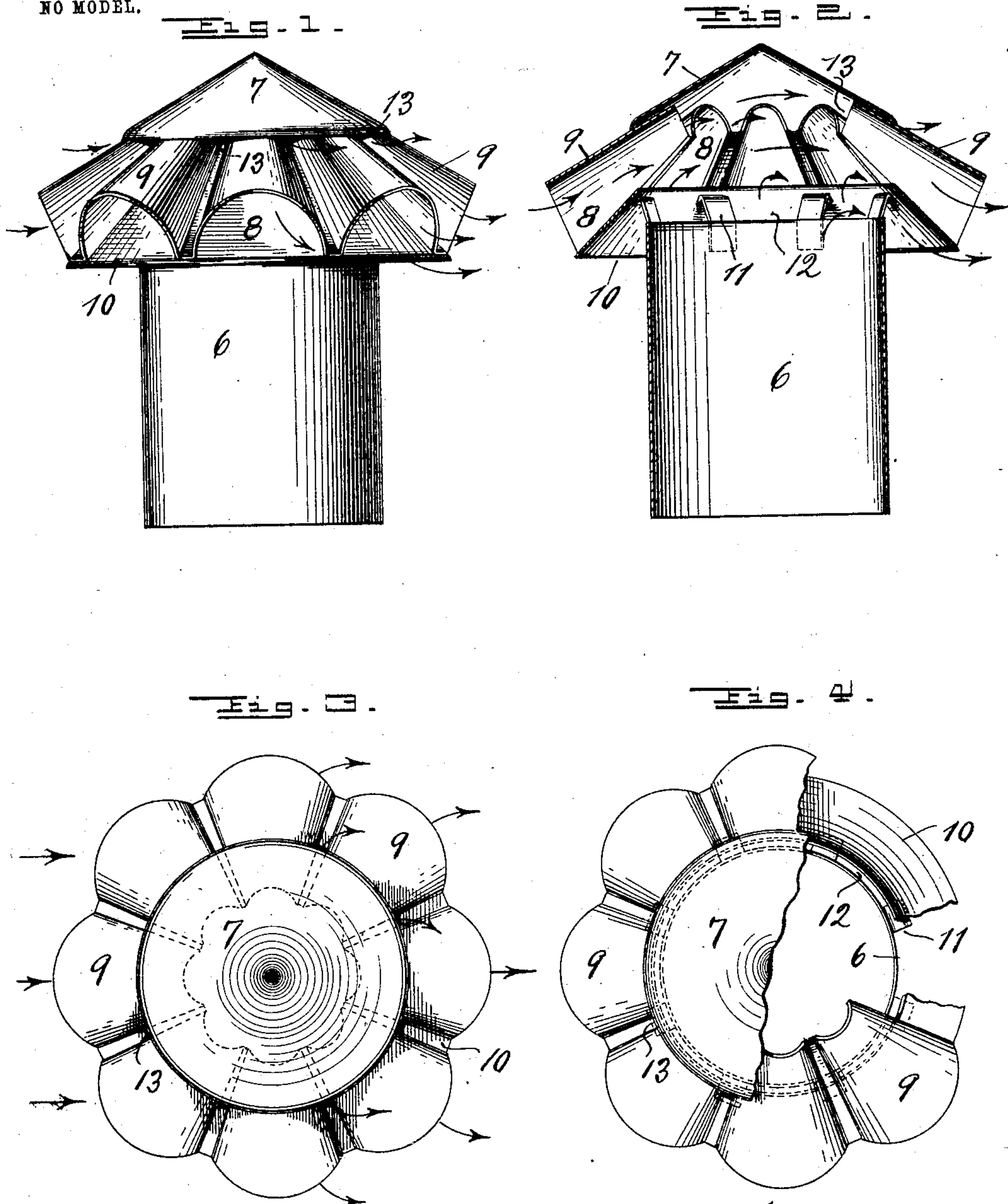
No. 725,452.

PATENTED APR. 14, 1903.

E. T. KLEIN.  
VENTILATOR HEAD.

APPLICATION FILED SEPT. 26, 1902.

NO MODEL.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## VENTILATOR-HEAD.

SPECIFICATION forming part of Letters Patent No. 725,452, dated April 14, 1903.

Application filed September 26, 1902. Serial No. 124,911. (No model.)

*To all whom it may concern:*

Be it known that I, EMIL T. KLEIN, a citizen of the United States, and a resident of Dayton, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Ventilator-Heads; and I do declare the following to be a clear, full, and exact description thereof, attention being called to the accompanying drawings, with the reference-numerals marked thereon, which form also a part of this specification.

This invention relates to certain improvements in the construction of ventilator-heads, the object being to prevent interference of wind-currents with the proper operation of the ventilator and at the same time render such wind available to improve the action of the device.

In the following specification and particularly pointed out in the claims is found a full description of the invention, together with its operation, parts, and construction, which latter is also illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my improved ventilator. Fig. 2 is a central vertical section thereof. Fig. 3 is a top view of the same, and Fig. 4 is a similar view with parts broken away.

In the drawings, 6 is the lower or pipe part of the ventilator-head, it being also the part whereby the device is attached to the upper end of the ventilator pipe or flue and of which pipe it virtually forms a part, it being the upper terminus thereof.

7 is a cap or hood to prevent rain and snow from entering the upper end of the pipe. Discharge from the ventilator-flue takes place between the upper end of the same and this said cap. Strong wind-currents are apt to interfere with this discharge by sweeping across the upper end of the pipe and through the space between it and the hood or by entering this pipe, whereby they cut off or choke the upward draft therethrough. To prevent this, I provide a number of radially-arranged and upwardly-inclined ducts 8, part of the sides of each of which is formed by a corresponding number of truncated semi-cones 9, while the remaining or lower part of the sides of each duct is formed by an annular

inclined flange 10, to which the lower parts of the edges of each semicone are attached. These cones project upwardly above the upper edge of flange 10 and into the space between it and hood 7, toward which space these cones are entirely open. Hood 7 rests on the apex of the curved portion of each semicone, at which point it is attached, preferably, by rivets. Flange 10 is held in position by braces 11, secured to the upper edge of pipe-joint portion 6, the attachment being in such a manner that a space 12 is left between the upper edge of such pipe and the upper edge of said flange. It will now be seen that the wind cannot sweep directly across the upper edge or opening of pipe 6, by which action it would otherwise cut off or choke the upward draft therefrom. It can at most prevent discharge only through a limited number of ducts—that is, through those which have their outer openings toward the direction from which the wind blows, which in the drawings is assumed to be from the left. Any wind after having once entered through the mouths of these ducts which open into its path is at once changed as to direction, and instead of being free to cut directly across the outlet-opening of the pipe it is broken up and spread, so as to discharge through the remainder of the ducts, which outnumber those through which the wind enters. This discharge enters these ducts through their inner ends and over the upper edge of flange 10. In addition wind enters and escapes in the same manner through spaces 13 between the outside of adjoining semicones and below the lower edge of cap 7. It will be observed that the wind while entering from one side is first directed upwardly into the upper part of the head, so that when it passes across to enter the inner ends of the outlets on the other side it does so above the upper end of pipe 6 and does not choke the outlet therefrom. In addition to being thus neutralized in a manner to prevent it from interfering with the free discharge from the ventilator-pipe it also aids such discharge by reason of the manner in which it is directed upwardly and across the pipe, above the outlet of the same, whereby a suction is created below in this latter, which produces an up-



ward draft in the pipe. The air or smoke so drawn up passes readily out now with the wind through the ducts and outlets not obstructed by entering wind. Part of the discharge so drawn up may also escape through space 12 between the upper edge of pipe 6 and the upper edge of flange 10. The area of the outlets is so proportioned that the total area of all outlets free for discharge and less the area of those on the wind side and unavailable at the time is substantially equal to the area of pipe 6, so as to be able to accommodate the full discharge capacity of such pipe.

Having described my invention, I claim as new—

1. In a ventilator-head, the combination of the lower pipe portion, an inclined flange 10 attached thereto with a space between them, truncated semicones radially arranged and supported with their flat sides upon this flange, the corresponding part of which forms such flat side for each particular semicone, the inner ends of these latter being open and projecting above said flange and a hood to cover the space surrounded by the inner ends of these cones.

2. In a ventilator-head, the combination of the lower pipe portion, an inclined flange 10

attached thereto with a space between them, truncated semicones attached to this flange and projecting above the same, forming ducts 8 and a cap supported on the outer curved part of the semicones forming passages 13 between adjoining cones and its lower edge.

3. In a ventilator-head, the combination of the lower pipe portions, an inclined flange 10 attached thereto so as to be with its upper edge above the upper edge of the pipe, leaving a space between the two, air-ducts formed by truncated semicones supported above this flange 10 and a cap above these semicones, the operation being such that air which enters the outer openings of the cones on one side is directed upwardly to enter the inner openings of the cones on the opposite side, passing over to them above the upper edge of flange 10, the area of all lateral outlets combined being in excess of the area of the pipe.

In testimony whereof I hereunto set my signature in the presence of two witnesses.

EMIL T. KLEIN.

Witnesses:

C. SPENGEL,  
ARTHUR KLINE.