

(No Model.)

W. T. COTTIER.
VENTILATOR.

No. 517,793.

Patented Apr. 3, 1894.

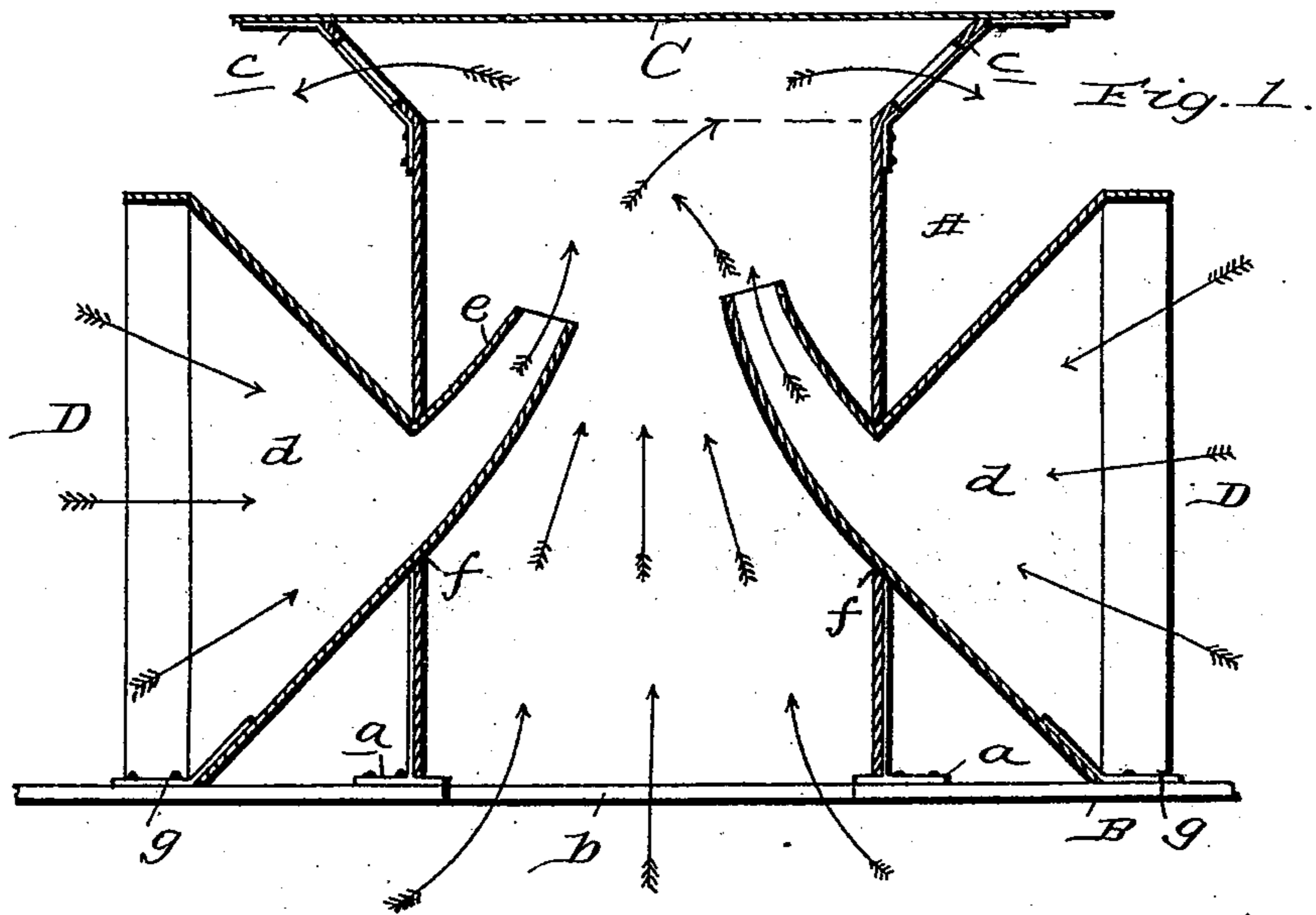
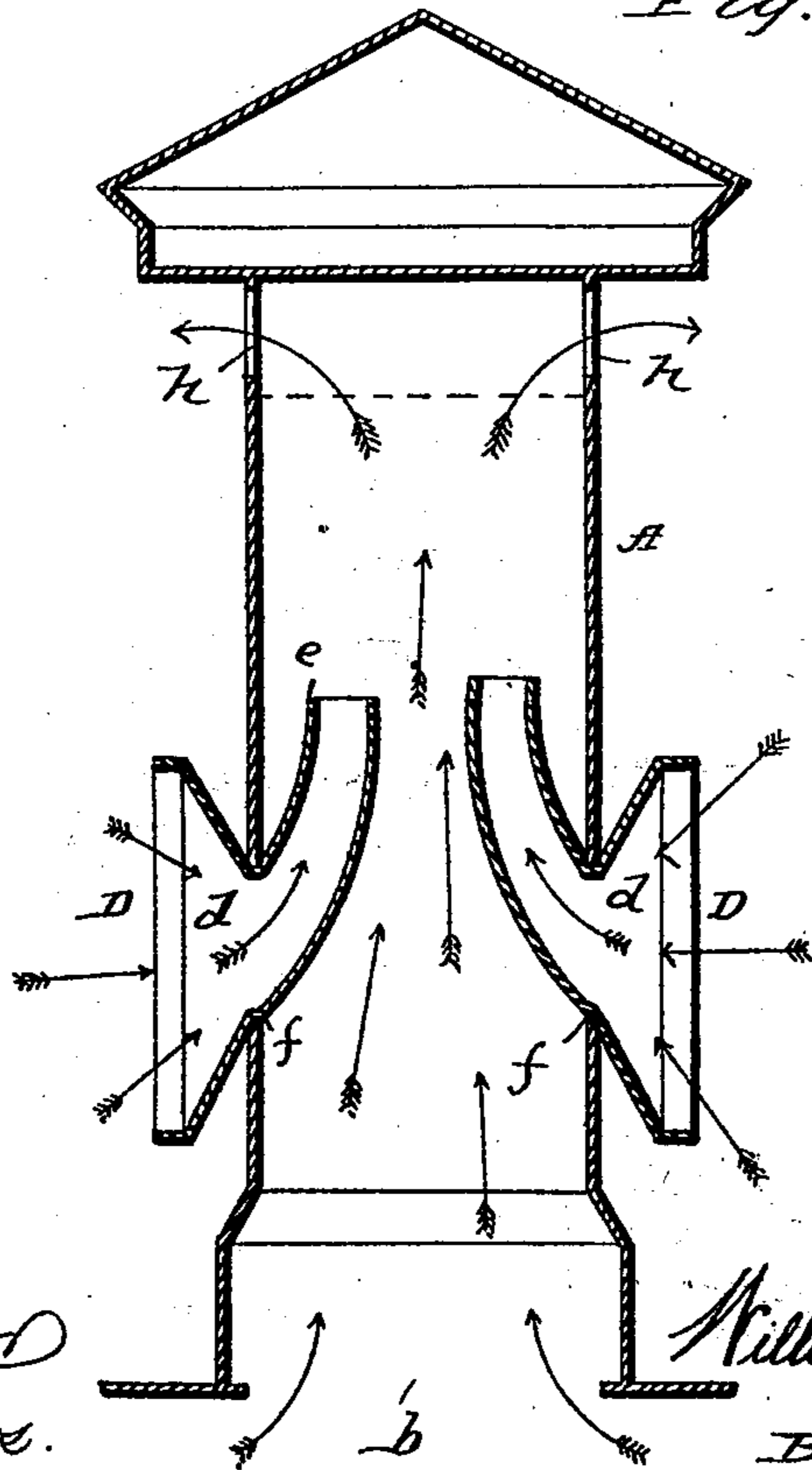


Fig. 2.



Witnesses:

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VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 517,793, dated April 3, 1894.

Application filed March 7, 1893. Serial No. 464,976. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM TALBOT COTTIER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Ventilators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in ventilators; and it has for its general object to provide a ventilator, more especially designed for use upon freight and passenger cars, embodying such a construction that the air passing through the same will create a strong and positive suction capable of exhausting the interior of a car of all vapors, gases, &c., so as to render the same pure and wholesome.

With the foregoing end in view the invention will be fully understood from the following description and claims when taken in connection with the accompanying drawings, in which—

Figure 1, is a vertical, diametrical section of my improved ventilator, as applied to a freight or passenger car, and Fig. 2, is a similar view of a modified form designed to be used in conjunction with a dwelling, cess-pool, sewer, or other place to be ventilated.

Referring by letter to said drawings, and more particularly to Fig. 1, thereof:—A, indicates the chimney or shaft of my improved ventilator, which may be formed from a suitable material, and is preferably of the proportional height and diameter illustrated. This shaft or chimney A, is connected to the top B, of a car, preferably by straps as *a*, and it is arranged over an opening *b*, which is preferably of a less diameter than the interior of the chimney for a purpose presently set forth.

C, indicates the cap plate of the chimney or shaft A. This plate is preferably of the proportional diameter, as illustrated, and is supported above the top of the chimney, preferably by straps as *c*, whereby it will be seen that the air taking up the chimney will pass laterally from the top of the same. By this arrangement of the cap plate C, it will be further perceived that when the car is in motion,

the air rushing beneath the plate, will greatly increase the suction, which is desirable.

D, indicates the inductors of my improved ventilator, of which two are preferably employed. These inductors D, which are arranged on opposite sides of the chimney or shaft and in the direction of the length of the car, respectively comprise a flaring mouth or concentrator *d*, and a reduced tube *e*, which extends through an aperture *f*, in the chimney and is tapered toward its upper end as shown. The tubes *e*, are pitched obliquely in opposite directions, as shown, that is to say the tube *e*, of the forward inductor is disposed upwardly and toward the rear side of the chimney or shaft and the tube of the rear inductor is disposed upwardly and toward the forward side of the chimney or shaft and the terminal end of one inductor extends to a higher point than the end of the other for a purpose hereinafter set forth. By this arrangement it will be seen that when the car is traveling in either direction the current of air will pass from one of the tubes *e*, up and out of the chimney in a direction opposite to that in which the car is traveling. It will also be seen that by reason of the arrangement of the tubes *e*, a free central passage is left in the chimney for the passage of the air, vapor, &c., from the interior of the car. The inductors D, may if desired be fixedly connected to form an integral part of the chimney or shaft A, but I generally prefer in practice to connect said inductors to the car by straps, as *g*, and simply introduce their tubes into the chimney, as by this construction an inductor may be readily removed when damaged and be replaced by another without damaging the chimney.

By reason of the peculiar form of the inductors D, it will be seen that a large mouth is afforded for the entrance of air and that the passage for the air is gradually reduced to the terminal point or inner end of the tubes *e*, whereby it will be seen that it will be discharged into the chimney with great force and will create a strong suction, which is a desideratum.

In the practice of my invention, the air passing through one or both of the inductors D, and that passing over the top of the chimney and beneath the cap plate C, will create a most powerful suction which will form a

vacuum in the chimney. Thus the foul air, gas, &c., will be constantly exhausted from the interior of the car and the same will be kept in a pure and wholesome condition.

5 The number of inductors D, to be used may be varied in accordance with the height of the chimney or shaft A, but I prefer in practice to employ in railway cars but two arranged as illustrated as I find that they serve
10 effectually to effect the purpose stated.

In Fig. 2, of the drawings I have shown a construction which is designed more especially for use in conjunction with a dwelling, cess-pool, or other place to be ventilated.
15 This construction is similar to that shown in Fig. 1, with the exception that the inductors are arranged at a greater elevation, and the chimney or shaft is provided with escape apertures *h*, instead of being open at its upper
20 end.

Having described my invention, what I claim is—

1. In a ventilator, substantially as described, the combination with a chimney or
25 shaft and a cap plate supported above the

upper end of the chimney or shaft so as to form a horizontal passage; of inductors arranged at opposite points and respectively comprising a flaring mouth *d*, and a tube *e*, extending upwardly within the chimney or shaft and tapered or reduced toward its terminal end, as and for the purpose set forth. 30

2. In a ventilator, substantially as described, the combination with a chimney or shaft and a cap plate supported above the upper end of the chimney or shaft so as to form a horizontal passage; of inductors arranged at opposite points and respectively comprising a flaring mouth *d*, and a tube *e*, extending upwardly within the chimney or shaft and tapered or reduced toward its terminal end; one of the said tubes *e*, being of a greater length than the other, substantially as and for the purpose set forth. 40

In testimony whereof I affix my signature in
presence of two witnesses. 45

WILLIAM TALBOT COTTIER.

Witnesses:

R. A. FITZGERALD,
T. C. WILLS.