(No Model.)

E. MIGNAULT.

CHIMNEY CAP.

No. 343,186. Patented June 8, 1886.

FIG. 1.

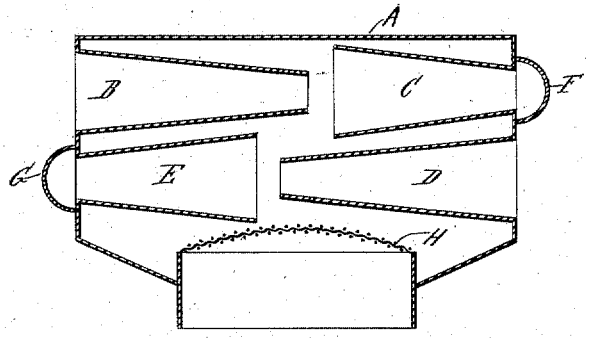


FIG. 2.

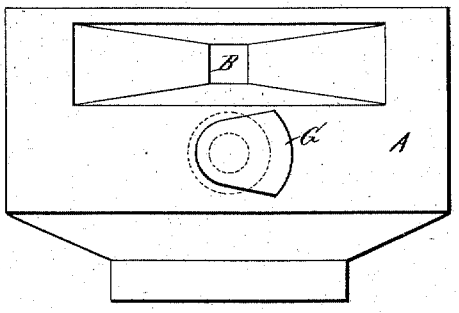


FIG. 3.

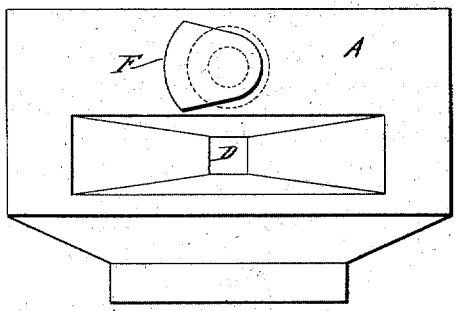


FIG. 4.

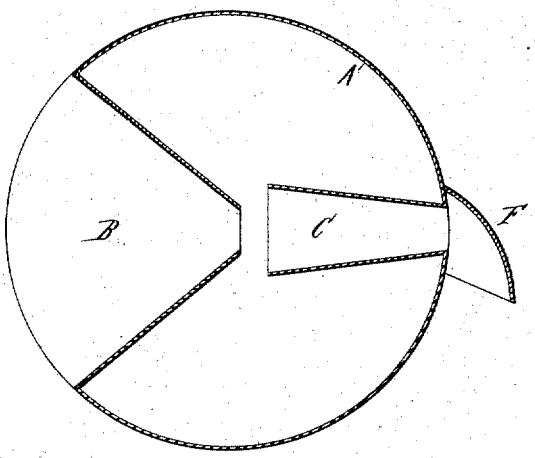
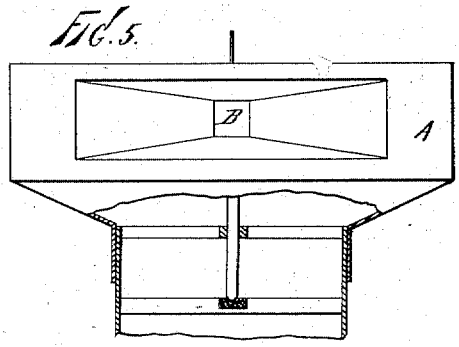


FIG. 5.



Witnesses:
John Buckler,
L. H. Osgood.

Eusebe Mignault,
Inventor:
By North, Osgood,
Attorney.

UNITED STATES PATENT OFFICE.

EUSEBE MIGNAULT, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO JAMES R. DAVIS, OF SAME PLACE.

CHIMNEY-CAP.

SPECIFICATION forming part of Letters Patent No. 343,186, dated June 8, 1886.

Application filed December 21, 1885. Serial No. 186,296. (No model.)

To all whom it may concern:

Be it known that I, EUSEBE MIGNAULT, of New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Air-Ejectors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has relation to apparatus employed for exhausting or ejecting air and gases for ventilating and other purposes, employing the force of currents of air or wind to accomplish the desired positive ejection.

My improved ejector is specially well adapted for ventilating railroad passenger-cars; but obviously may be applied in any situation for producing or accelerating an upward or outward current of air or gases from any tube, chimney, or compartment.

The object of my invention is to provide an apparatus wherein the moving exterior currents of the atmosphere are concentrated and directed across the mouth of the ventilating shaft or tube in such manner as to produce an effectual movement of air or gas through said shaft or tube, embodying at the same time simplicity of construction, compactness of arrangement, and durability of parts. To accomplish all of this, my improvements involve certain new and useful arrangements or combinations of parts and peculiarities of construction, all of which will be herein first fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical axial section of an apparatus constructed and arranged for operation in accordance with my invention. Fig. 2 is an elevation in the direction looking toward the right of Fig. 1, and Fig. 3 is a similar view looking toward the left of Fig. 1. Fig. 4 is a horizontal section upon a plane passing through the upper tubes in Fig. 1. Fig. 5 is a sectional elevation showing the improved ejector mounted so as to turn with the wind.

In all these figures like letters of reference wherever they occur indicate corresponding parts.

A is the outer shell of the apparatus, preferably made of sheet metal and of general cylindrical form, though other forms and other material might be adopted. The joints should all be air-tight. The shell is intended to be mounted upon any tube or shaft through which a draft is required, and the shell is exposed to atmospheric currents.

B is the upper tube, having an enlarged mouth for receiving the incoming atmospheric currents. This is joined with the shell at the margin of the outer opening, and extended therefrom inwardly to a point beyond the axis of the shell, being gradually contracted from the enlarged mouth to its discharge-orifice, so as to collect and condense or concentrate the incoming currents. Opposite the tube B is another tube, C, of which the inner mouth is of considerably greater area than the inner mouth of B, and which is gradually contracted toward the exterior, as plainly shown. Sufficient space is left between the inner mouths of these tubes to permit the flow of air or gases from the shaft into tube C with the currents which are directed therein from the exterior through B.

D and E are two tubes, arranged like B and C, except that in this pair the enlarged inlet for exterior currents and the contracted outlet for outgoing currents are located in the walls of the shell at points opposite the corresponding openings in the other pair. In both pairs the inlet and discharge tubes are arranged so that their axes shall lie in the same straight line and at right angles to the vertical axis of the shell, and all the tubes are located entirely within the shell. A current passing through B is gradually contracted so that it passes the space between B and C with considerable force and velocity, the tendency, being to create a partial vacuum in this space, which induces the air and gases to flow from the shaft, and these are forcibly carried out of the shell through C, together with the operating current, the outflow of the combined currents being accelerated by reason of being slightly contracted as they are forced through C. When the wind blows directly into the enlarged mouth of B, of course the action will be most perfect. When blowing from the

opposite direction, it will be received by D and perform like offices. When the two sets of tubes are employed, it becomes necessary to prevent the wind from blowing directly in at the discharge-orifice of either C or E, and thereby render the device less efficient than it would otherwise be. I therefore apply hoods, as F G, over these discharge-orifices. These hoods are open at one side, so that while they afford a barrier against incoming currents, they permit the free discharge of outgoing currents. When mounted upon a car, the axes of the tubes are placed in line with the axis of the car, so that the movement of the car in either direction will produce the necessary flow of air into and through the ejector.

The device is compact, and not too high for application upon cars.

All the parts are easily constructed, and none of them are liable to get out of order.

The shell is symmetrical, and no part of the apparatus is unnecessarily exposed to damage by passing objects.

H is a screen, placed over the shaft-opening to prevent cinders and dust from entering the car or other compartment.

Additional sets of ejection-tubes might be located in the shell, but they are unnecessary, the two sets being sufficient to collect and direct the currents practically under all circumstances. If a single set is employed, as may be done, the shell may be pivoted so as to turn with the wind, as indicated in Fig. 5, the arrangement being such as to always expose the enlarged open mouth to the wind-current.

The device being constructed and arranged for operation substantially as explained, will be found to admirably answer the purpose or object of the invention as previously set forth.

Having now fully described my invention, what I claim as new herein, and desire to secure by Letters Patent, is—

1. In an ejector of the character herein set forth, the two tapering tubes located within the shell, leaving an open space between their inner ends, the inlet-tube being gradually contracted toward its discharge-orifice and extending slightly beyond the vertical axis of the shell, and the discharge-tube being also gradually contracted toward its discharge-orifice, the axes of the two tubes being located in the same line, substantially as shown, and for the purposes set forth.

2. In an ejector of the character herein set forth, the combination, with the tapering discharge-tubes located within the shell, of the hoods open at one side and applied upon the exterior of the shell over the discharge-orifices of said tubes, substantially as and for the purposes explained.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

EUSEBE MIGNAULT.

Witnesses:
JOHN BUCKLER,
WORTH OSGOOD.

Correction in Letters Patent No. 343,186.

It is hereby certified that the name of the assignee in Letters Patent No. 343,186, granted June 8, 1886, upon the application of Eusebe Mignault, of New York, New York, for an improvement in "Chimney Caps," was erroneously written and printed "James R. Davis;" that said name should have been written and printed *James R. Davies;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 15th day of June, A. D. 1886.

[SEAL.]

H. L. MULDROW,
Acting Secretary of the Interior.

Countersigned:

M. V. MONTGOMERY,
Commissioner of Patents.