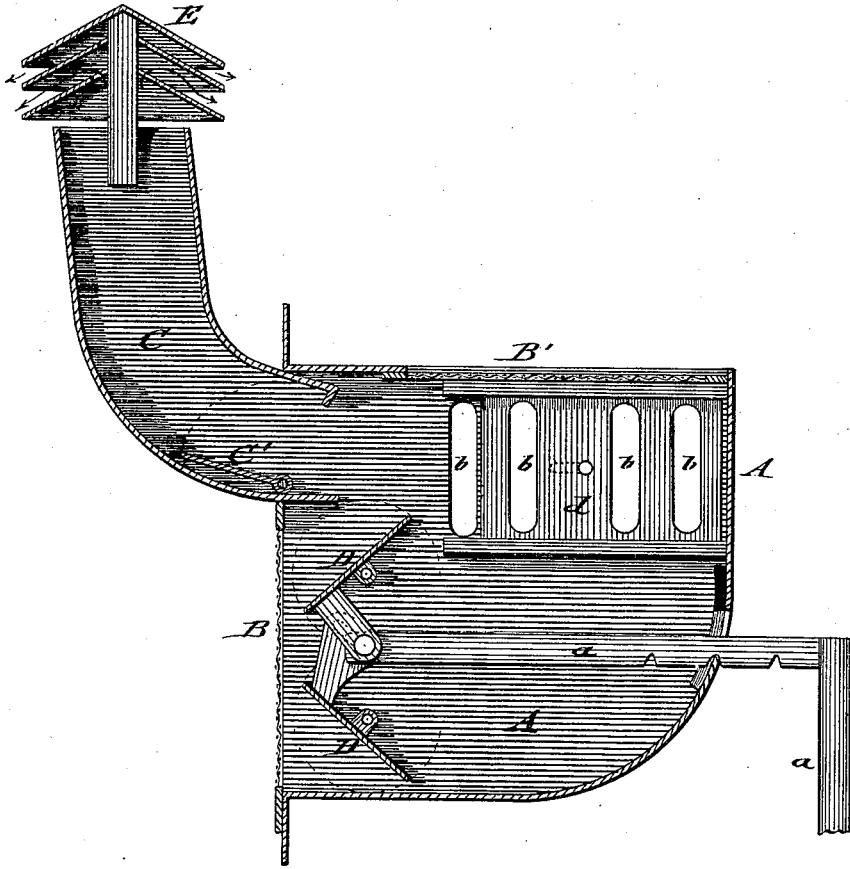


H. M. FARNAM.
Ventilator.

No. 199,426.

Patented Jan. 22, 1878.



WITNESSES:

Henry N. Miller
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INVENTOR:

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BY

[Signature]

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY M. FARNAM, OF ST. ALBANS, VERMONT.

IMPROVEMENT IN VENTILATORS.

Specification forming part of Letters Patent No. **199,426**, dated January 22, 1878; application filed December 21, 1877.

To all whom it may concern:

Be it known that I, HENRY M. FARNAM, of St. Albans, in the county of Franklin and State of Vermont, have invented a new and Improved Ventilator, of which the following is a specification:

The accompanying drawing represents a vertical transverse section of my improved ventilator.

This invention relates to an improved ventilator for steam and horse cars, hotels, dwellings, halls, and other purposes, that is so arranged as to induct a continuous supply of fresh air and exhaust the vitiated air in an automatic and reliable manner; and the invention consists of a casing with screened supply-pipe and adjustable doors, and of a curved exhaust-pipe and damper above the supply-pipe. The exhaust-pipe is provided with a compound cap or protector, for preventing the entrance of rain and snow and keeping up the draft.

Referring to the drawing, A represents a receptacle or casing, of suitable size and material, and with curved bottom, which is supported in the wall of the car or dwelling near the ceiling, in such a manner that the open side is fitted into a corresponding opening of the wall of the car or dwelling, with the open top part at the inside of the car or dwelling.

The openings at the side and top are covered by screens B'B'; the side opening by a fine screen, to keep out the cinders and dust particles; the top opening with a coarsely-meshed screen.

The casing A and screened openings form the supply-pipe proper, the air passing continually through the outside screen, and then in upward direction, and through the inner top screen to the ceiling, striking the same, and then descending and preventing thereby cold drafts.

The exhaust-pipe C is arranged above the outer opening of the supply-pipe, and is curved and extended to suitable height. The exhaust-pipe performs a double function—first, it draws out the impure air in a continuous manner and entirely independent from the supply of air; and, secondly, the draft at the

top of the exhaust-pipe draws out the smoke, which goes into the supply-pipe from the outside, thus preventing it from entering the car.

The supply-opening may be closed or partly or entirely opened by means of doors or regulators D, that turn by central pivots in holes of the casing, and are operated by a lever-rod and handle, pulley and cord, or other equivalent device, *a*, so as to set the regulating-doors into the desired position. The lever-rod or other device is guided in a slot or opening of the casing, provided with leather or rubber packing to prevent rattling.

The exhaust-pipe C is provided with a damper, C', at the lower end, which, when closed, prevents the escape of warm air. The damper is specially useful in the winter season in cold weather.

The casing A has in both end walls exit-openings *b*, which allow the impure air to reach more readily its outlet. These exit-openings are opened or closed by slotted slides *d*, so as to form registers. The impure air passes through the side openings to the curved exhaust-pipe, which is provided with a top protector, E, that prevents the rain and snow from entering the exhaust-pipe. The protector is made of several sections, with inclined sides, which are firmly secured one above the other, the lower ones being open in the center for the passage of air. The uppermost section forms the cap or roof for the lower open sections. This construction of the protector creates a considerable draft and draws out the smoke that enters into the supply-pipe, and also the warm and impure air. The ventilator unites thus in compact manner the advantages of a constant air-supply with a constant exhaustion or expulsion of the vitiated air, and may, on account of its convenient shape, be applied at different parts of the cars, and for all other purposes where a constantly-working ventilator is desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of a casing, having screened side and top openings forming the air-supply pipe, and adjustable regulating-

doors, with an exhaust-pipe above the side-entrance opening, substantially as and for the purpose specified.

2. The combination of the air-supply pipe, having screened side and top openings, adjustable regulating doors and registers in the end walls, with a curved exhaust-pipe above side-entrance opening, substantially as described.

3. The combination in a ventilator of the air-exhaust pipe with a protector made of lower slotted sections and closed top or cap section, substantially as and for the purpose specified.

HENRY MARVIN FARNAM.

Witnesses:

S. S. BEDARD,

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