H. A. GOUGE.

Car-Ventilating Apparatus.

No. 152,102. Patented June 16, 1874.

Fig. 1

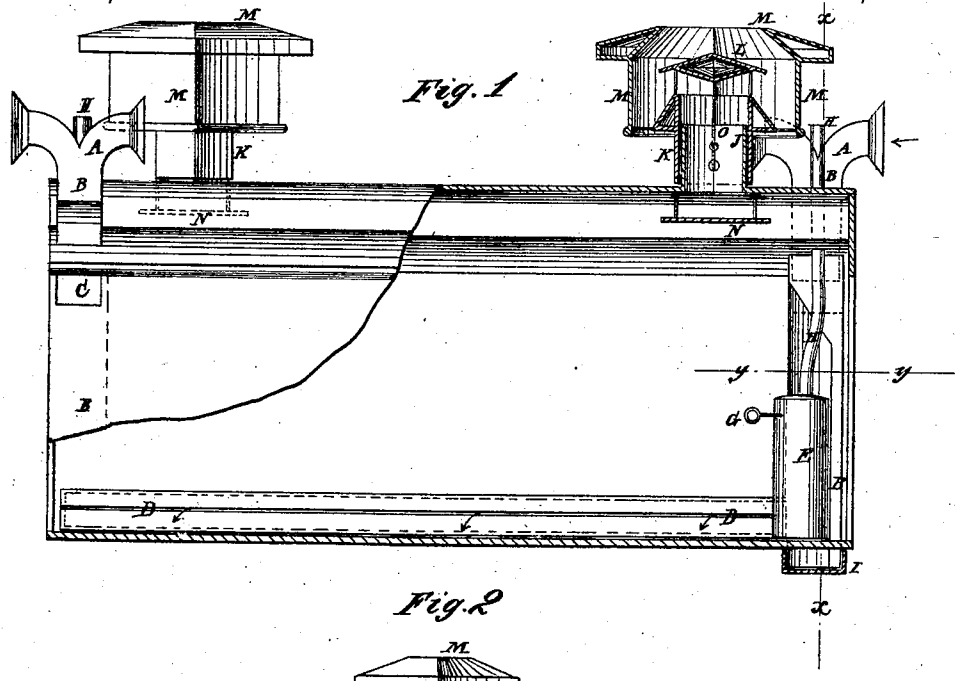


Fig. 2

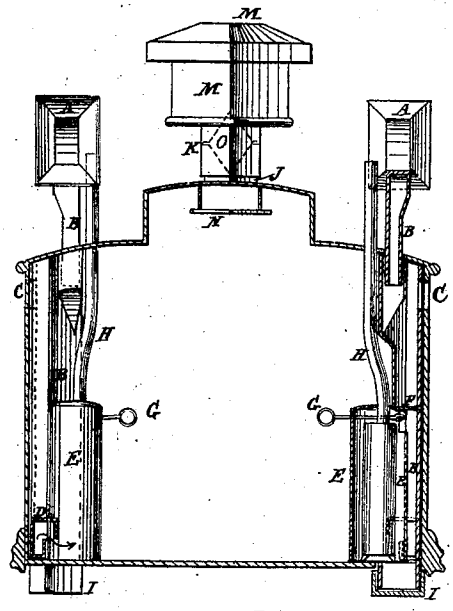


Fig. 4

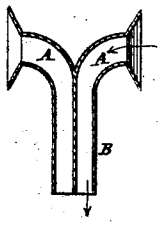


Fig. 5

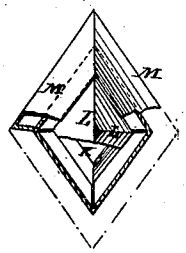
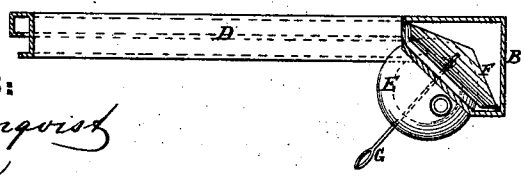


Fig. 3



WITNESSES:

A. W. Almquist

J. Sedgwick

INVENTOR:

H. A. Gouge

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY A. GOUGE, OF NEW YORK, N. Y.

IMPROVEMENT IN CAR-VENTILATING APPARATUS.

Specification forming part of Letters Patent No. **152,102**, dated June 16, 1874; application filed May 16, 1874.

To all whom it may concern:

Be it known that I, HENRY A. GOUGE, of New York city, in the county and State of New York, have invented a new and useful Improvement in Car-Ventilating Apparatus, of which the following is a specification:

Figure 1 is a vertical longitudinal section of a car-body to which my improved apparatus has been applied. Fig. 2 is a vertical cross-section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a detail horizontal section of the same, taken through the line *y y*, Fig. 1. Fig. 4 is a detail section of the inlet device. Fig. 5 is a top view of the outlet device, part being broken away to show the construction.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved apparatus for ventilating cars by the introduction of fresh air and the withdrawal of impure air, and which shall be simple in construction and easily manipulated.

The invention will first be fully described, and then pointed out in the claims.

A are the inlet devices, which are placed at the alternate angles of the car. The device A is made in two parts, or double, and with funnel-shaped mouths, the mouth of the one part being forward, and that of the other part rearward, as shown in Figs. 1 and 4. The parts of the device A unite into a single tube, B, which passes down through the roof of the car, and its upper part is divided into two passages, one for each mouth, by a partition, which extends a little below the roof. In the sides of the car, just below the roof, are formed openings or passages C, leading into the tube B. By this arrangement, as the car moves in either direction, the air passes in through the forward mouths of the devices A, and passes down through the tube B, which induces a strong current of air through the openings or passages C. At or near the floor of the car the tube B opens into the tube or passage D, which extends along the floor, and is made rectangular in form, and with its upper side projecting inward and turned downward, as shown in Fig. 2, forming a narrow opening along its entire length, through which the air escapes into the car. In the side of the tube B is formed an opening, leading into the drum E, which is designed to surround the stove, and from the lower part of which an opening or passage leads into the tube D. This arrangement enables the air to be heated before being introduced into the car. F is a damper, placed in the tube B, and so arranged that a part, all, or none of the air passing through the tube B may be made to pass through the drum E, as circumstances may require. The damper F is operated by a rod, G, placed in the upper part of the drum E, or in some other convenient place. H represents the smoke-pipe of the stove, which passes up along the side of the tube B, and out through the roof of the car. At the lower end of the tube B is placed a small water-chamber, I, to receive sparks and cinders that may pass in through the tube B, and prevent them from passing through the tube D into the car. In the roof of the car, near each end, is formed a rhomboidal or diamond-shaped hole, in which is secured an upwardly-projecting collar, J, upon which is placed a short tube, K. Above the upper end of the tube K is placed a cap, L, which is formed of two low rhomboidal pyramids, placed base to base, and which is supported by rods attached to the tube K. The top of the tube K and the cap L are surrounded by a rhomboidal tube, M, which is supported by rods from the tube K. The upper edge of the tube M is inclined inward, leaving a rhomboidal opening at the top. The tube or cap M is also made with an outwardly-projecting flange around its upper part. N is a rhomboidal plate, suspended by rods from the roof of the car, directly beneath the opening in the roof of the said car. The tube K or collar J is provided with a rhomboidal damper, O, which is weighted at one end, so as, when left free, to hang in a vertical position, and which is designed to have a cord attached to its other end, so that it may be wholly or partially closed. By this construction the forward movement of the car will induce an upward current of air through the device which draws the impure air from the car. By this construction, also, a downward wind cannot blow into the car, but will only induce an upward draft through the device.

By omitting the damper O and the plate N,

the device K L M may be used with advantage for attachment to chimney-tops, to promote draft and prevent smoking.

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

1. The double inlet device A, the tube B, provided with a side opening or passage, C, and the tube D, provided with a long narrow opening along its side, constructed substantially as herein shown and described, for introducing fresh air into a car, as set forth.

2. The combination of the drum E and damper F with the tubes B D and inlet device A C, for conducting a part or the whole of the air about a stove before it passes into the car, substantially as herein shown and described.

3. The combination of the pivoted damper O and the plate N with the outlet device K L M, substantially as herein shown and described.

HENRY A. GOUGE.

Witnesses:

C. SEDGWICK,

T. B. MOSHER.