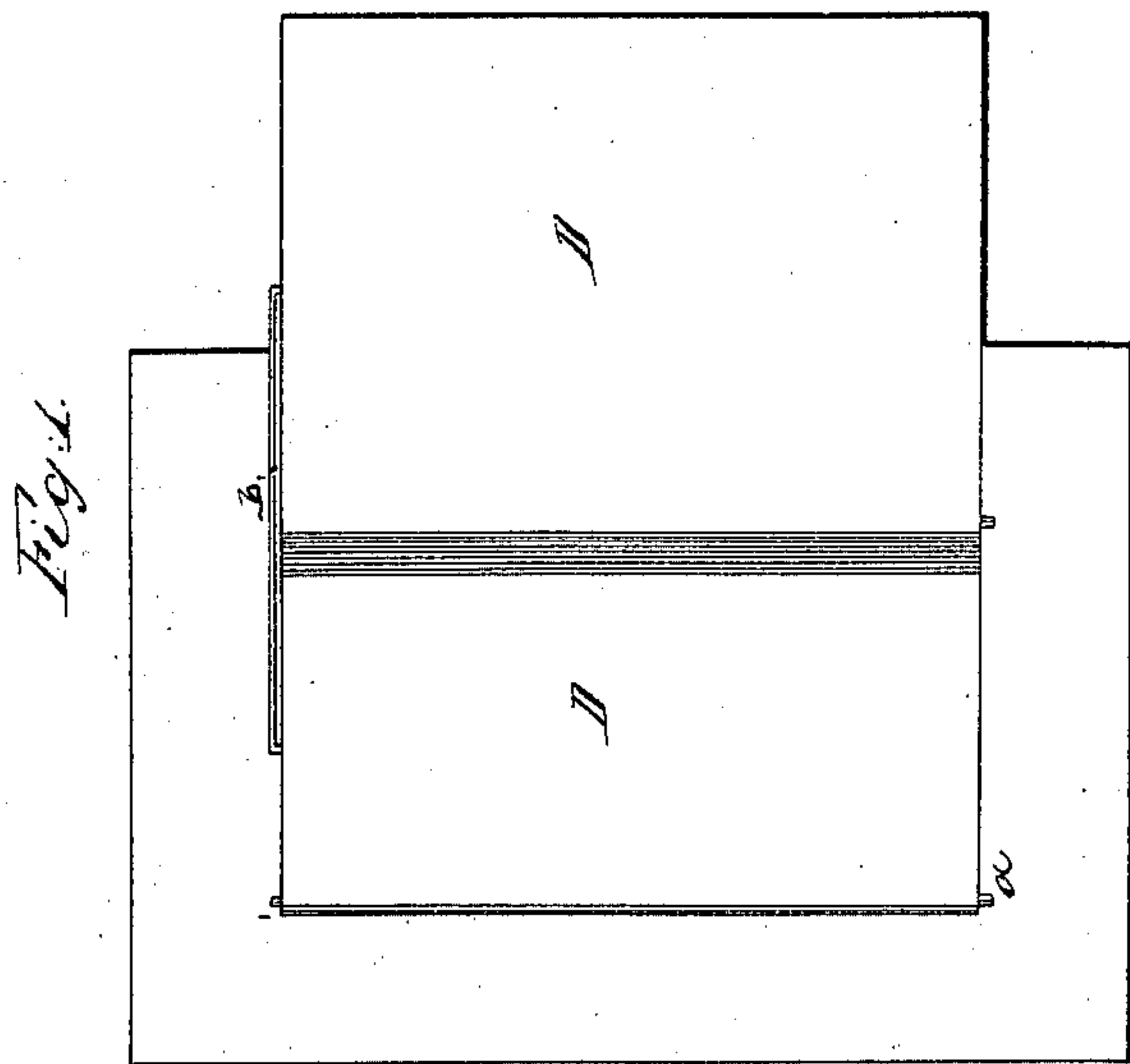
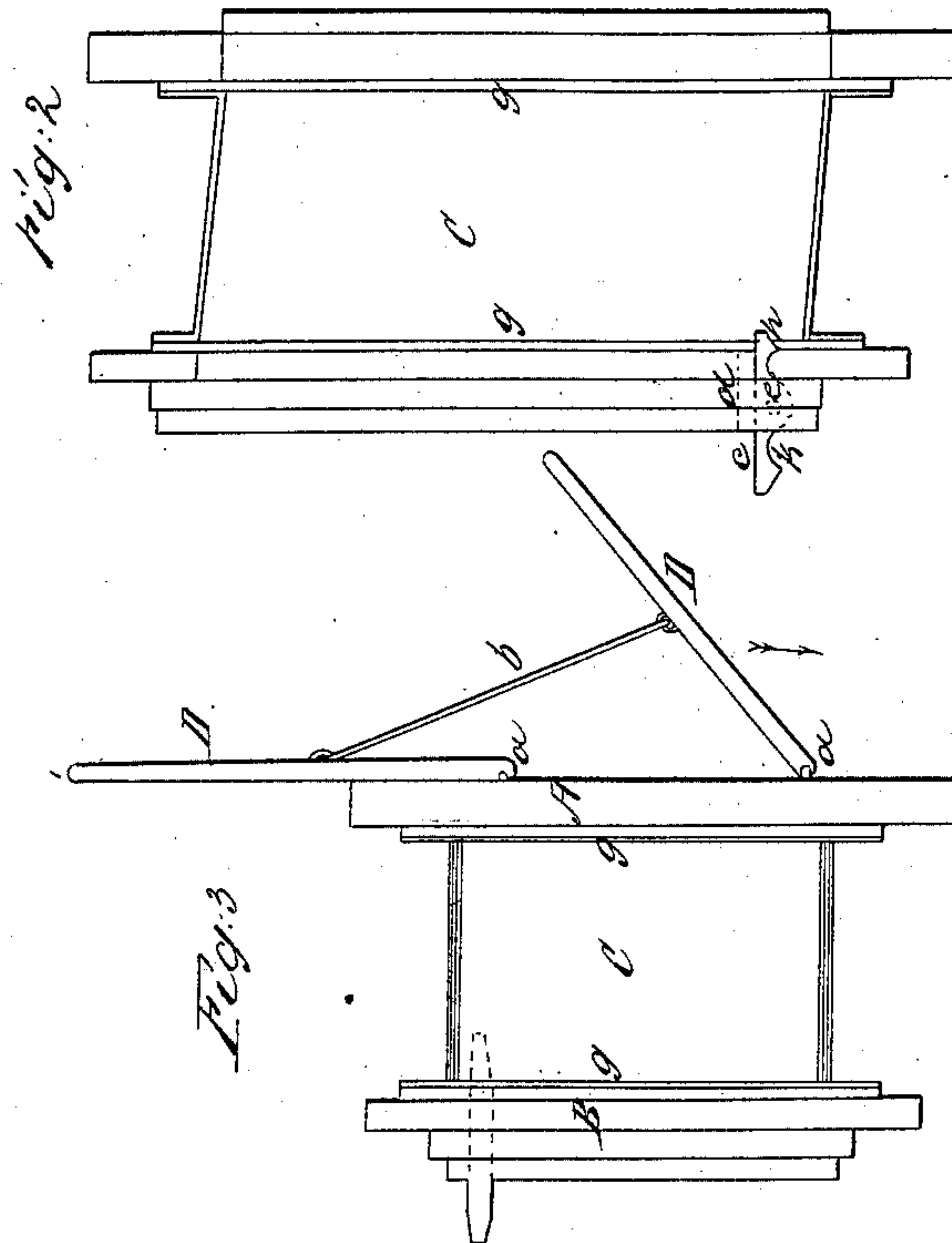


J. A. Caldwell,

Car Ventilator.

N^o 57470.

Patented Aug. 28, 1866.



UNITED STATES PATENT OFFICE.

J. A. CALDWELL, OF SPRINGFIELD, MASSACHUSETTS.

CAR-VENTILATOR.

Specification forming part of Letters Patent No. 57,470, dated August 28, 1866.

To all whom it may concern:

Be it known that I, J. A. CALDWELL, of Springfield, Hampden county, Commonwealth of Massachusetts, have invented certain Improvements in Car-Ventilators; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to letters of reference marked thereon.

In the drawings, Figure 1 is a front view, Fig. 2 a vertical section, Fig. 3 a top view, of a ventilator constructed according to my invention.

My improvements will readily be seen from the construction of my invention, which I will now describe.

I form on the outside of the car a frame, A, and a similar one on the inside, B. These frames are connected by a tin case or tube, C, or similar connection; and my improvements consist in the manner of arranging this case in the side of the car, and also in attaching the flaps or wings D D to the outside of the car at *a a*, and to each other by the rod *b*, and in the manner of fastening the door of the ventilator by means of the latch or catch formed of the piece *c* passing through the door and the rubber spring *d*, which is so formed as to operate on the catch-piece *c* on both sides of the pivot *e*.

My improvements in the arrangement of the case or connection C consist in forming the same on a slant or bevel outward, as shown in the drawings, and in interposing the rubber packing *g* between the case and the inner and outer frames, A B.

The object of the arrangement of the wings D

D, connected by the rod *b*, as described, is that the motion of the car may operate them automatically, so that they may be in the position shown in Fig. 3 when the car goes in the direction of the arrow, so that cinders, smoke, &c., may be excluded from the car, and a current be formed along the outside of the car, which thoroughly ventilates it by drawing out the heated and impure air.

The connection C is arranged, as shown, on a slant, for the purpose of shedding what water may get into the interior of the wall of the car, and the rubber packing is placed between the case C and the wall, so as to exclude this moisture from the ventilator-case.

My spring-catch is formed, as described, with the rubber spring pressing on each side of the pivot, so that the projection *h* may hook over the frame, fastening the door to the frame when closed, and the projection *k* also hooks over some part of the car when the door is opened, fastening it open.

In this manner I form a neat, simple, and compact ventilator, and consequently cheaply built and little liable to get out of order.

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

The arrangement of the wings D D on the outside of the case C, in combination with the rod *b*, packing *g*, spring *d*, and catch *c*, substantially as described.

J. A. CALDWELL.

Witnesses:

J. B. GARDINER,

J. E. FULLER.