

(No Model.)

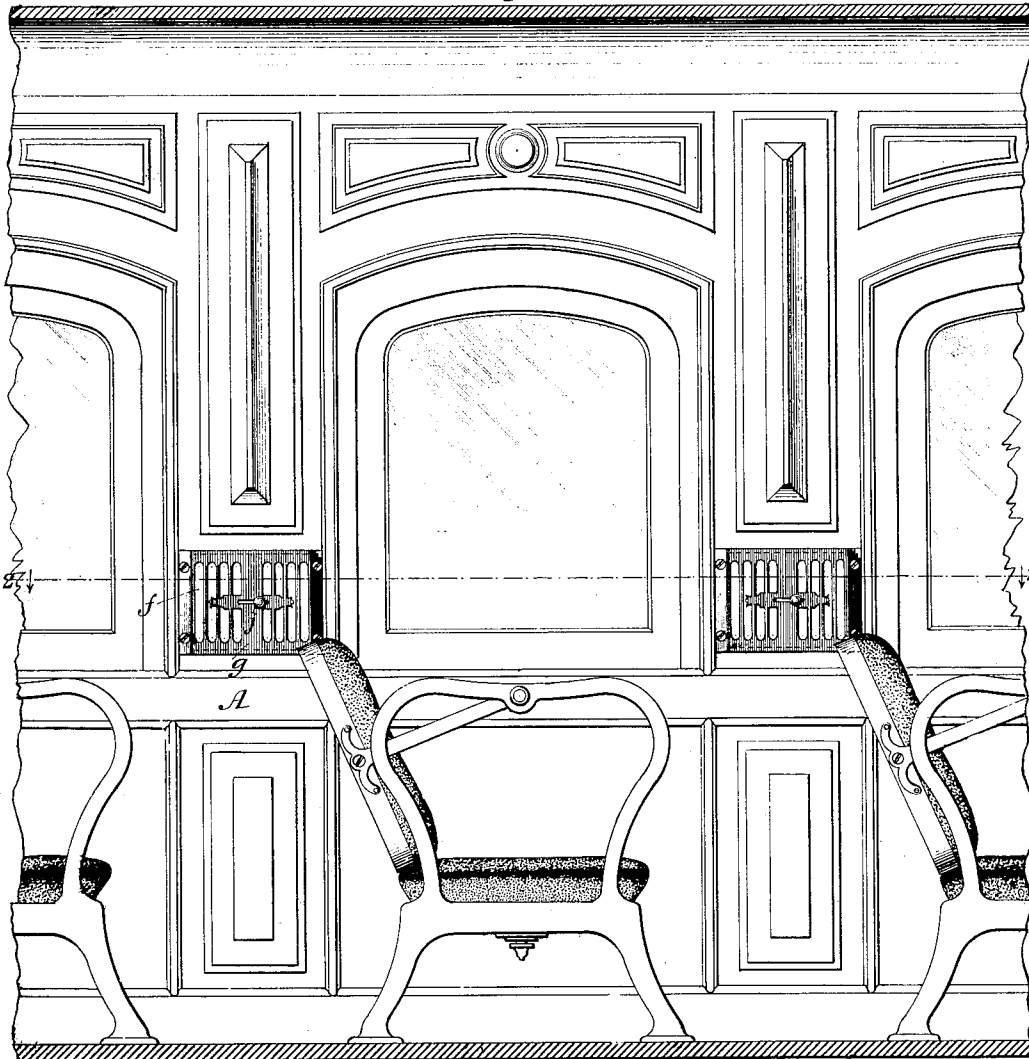
2 Sheets—Sheet 1.

H. A. DIRKES
VENTILATOR FOR CARS.

No. 475,389.

Patented May 24, 1892.

Fig: 1.



WITNESSES:

John J. Reynolds.
Herbert Bloform

INVENTOR:

Henry A. Dirkes

By *Henry Commins*
Attorney.

(No Model.)

2 Sheets—Sheet 2.

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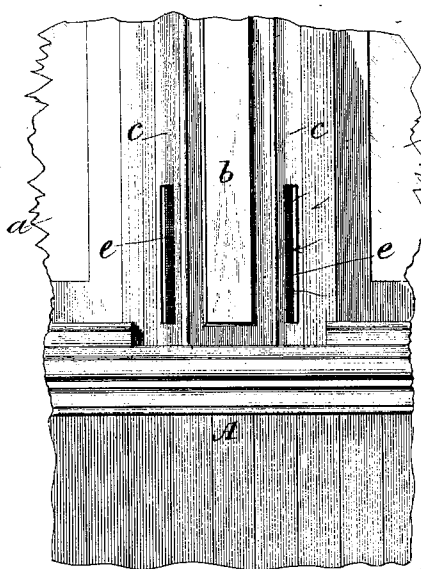


Fig: 5.

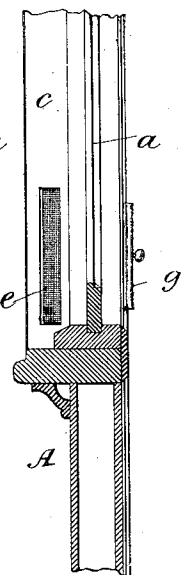


Fig: 3.

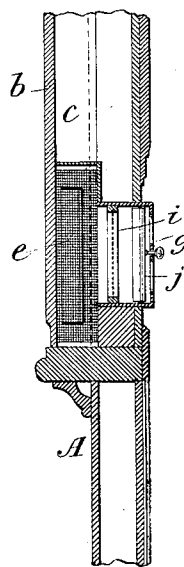


Fig: 4.

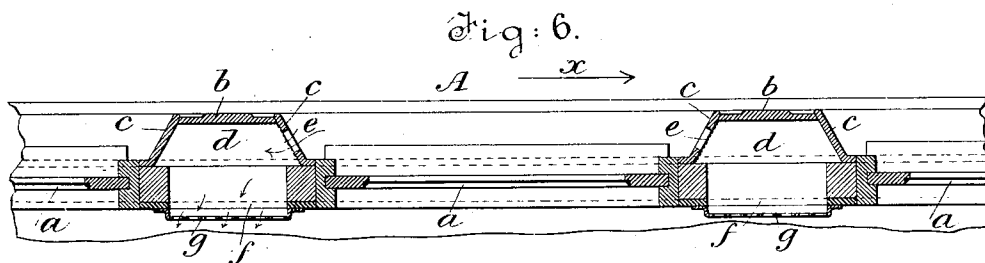


Fig: 6.

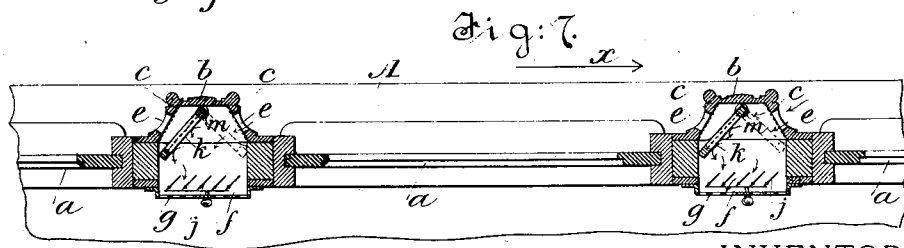


Fig: 7.

INVENTOR

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By Henry Connell
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WITNESSES:

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UNITED STATES PATENT OFFICE.

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

VENTILATOR FOR CARS.

SPECIFICATION forming part of Letters Patent No. 475,389, dated May 24, 1892.

Application filed July 22, 1891. Serial No. 400,360½. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. DIRKES, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Ventilators for Cars, of which the following is a specification.

My invention relates to means for admitting air to cars while in motion, and especially to the class known as "parlor" and "sleeping" cars, which have upright projecting or raised panels between the windows at the sides of the car; and the object of the invention is in part to utilize the salient edges of the panels, which present faces directed toward the ends of the car, as air catchers or gatherers, as will be more fully explained, and in part to improve the construction of the dust-arrester, all as will be more particularly set forth herein-after.

In the drawings, which serve to illustrate my invention, Figure 1 is an inner face view of the side of a car provided with my improvements; and Fig. 2 is a horizontal section of the same, taken in the plane indicated by line 2 2 in Fig. 1. Fig. 3 is a vertical section taken on line 3 3 in Fig. 2. Fig. 4 is a vertical section taken on line 4 4 in Fig. 2. Fig. 5 is an outside face view of one of the panels of the car. Figs. 6 and 7 are horizontal sections, similar to Fig. 2, illustrating other forms of the invention, which will be hereinafter described.

I will first describe the means I employ or take advantage of for getting the air into the car, and as this is most simply illustrated in Fig. 6 I will refer to this figure for illustration.

A represents generally the side of a car, which is supposed to be moving in the direction indicated by arrow *a*. *a* are the windows in the car, between which are arranged upright raised panels *b*, which project in such a manner as to produce lateral salient faces or edges *c*, one at each side of the panel and which are usually inclined, as shown, and sometimes ornamented with a molding. These projecting faces or edges will of course be presented toward the respective ends of the car, and the face which may at the time be presented toward the forward end of a moving car will offer resistance to the movement of

the car through the air. Within the panel between the car-windows is a hollow space *d*. These raised panels, which stand out a little from the adjacent parts of the car side, form a part of the side of the car.

The above-described construction is common in cars and I utilize it for ventilation in the manner I will now describe.

In one of the edges *e* of the panel I cut a slit or form an aperture *e*, through which the air will rush into the hollow *d*, where said aperture is facing in the direction in which the car is moving, and in the inner wall of the car at the panel I cut or form an opening *f*, whereat the air which enters the hollow *d* may flow into the car, as indicated by the arrows in Fig. 6. In this figure I have shown the apertures *e* at adjacent panels as facing each other, so that one or the other may catch the air in whichever direction the car may be moving, and I have shown the opening *f* covered by an apertured plate *g*. This plate, however, is mainly for ornament, although it will serve to break up and somewhat retard the incoming current of air. It is desirable, however, to provide the ventilator described with a dust-arrester or air-filter and with a register, whereby the incoming air may be freed from dust and regulated as to quantity, and it is desirable, also, to provide means for admitting the air at each panel in whichever direction the car is moving. This construction is illustrated in Figs. 1, 2, 3, 4, and 5 and will now be described. The hollow in the panel *b* is divided by a deflecting-partition *h* into two parts, and an aperture *e* is formed in each edge or lateral face *c* of the panel. These apertures may be covered with fine wire-gauze, as best seen in Figs. 3 and 4, if desired, in order to prevent the entry of cinders or coarse particles of dust with the air. Across the opening *f*, whereat the air enters the car, is placed a filter *i* for removing the dust from the air as the latter passes through its interstices. This filter may be made from any fibrous fabric or textile fabric. Between this filter and the outer plate *g* is placed a register *j*, adapted to be operated in the usual way. In this construction the air entering at either of the apertures *e* in the panel will strike the deflecting-partition *h* and be thus deflected into the car through the filter and register, if

either or both of these be employed, and in whichever direction the car may be moving the air will enter the car at every one of the apertures f in the side of the car.

5 In lieu of the partition h and filter i a shifting dust-arrester may be employed, which will also serve the purpose of a deflector. This construction is illustrated in Fig. 7, which shows the same construction as that of Fig. 2,
10 essentially, except that the filter i is omitted entirely and the partition h replaced by a shifting dust-arrester k . This latter consists by preference of a stiff frame hinged to the panel at m and adapted to swing from side
15 to side. On this frame will be placed a piece of some fibrous fabric adapted to catch and retain the dust particles which impinge against it as the incoming air strikes its surface obliquely. The full lines show the oblique position of the dust-arrester k when the car is moving in the direction indicated by
20 arrow x , and the dotted lines indicate its position when the car is moving in the other direction. The arrows in the figure indicate
25 how the entering current of air impinges on the dust-arrester and is deflected therefrom. The hinged dust-arrester may be shifted by hand, or the incoming current of air may be relied on to shift it. In lieu of hinging the
30 dust-arrester k it might be fixed in a central position, like the partition h of Fig. 2; but I prefer to arrange it to shift as above described.

It will be understood that my object is to utilize the projecting hollow panels now existing on cars for air catchers and receivers,
35 and thus avoid mounting on the side of the car extraneous projecting air catchers or casings, which not only add to the expense and detract from the appearance of the car, but
40 which project unduly and are liable to be injured, owing to their exposed position.

My invention may be applied to cars having panels of various forms and widths, and it is not material whether the face of the panel
45 be wide or narrow, or whether the edge c thereof, which faces toward the end of the car, be at right angles to the side of the car or be inclined thereto at some other angle. By the "edge" of the panel I wish to be understood as
50 meaning the part c , which faces toward the end of the car, whatever may be its width or inclination, and whether it be molded or have a plane surface.

While my invention is well adapted to cars
55 as now constructed, the cars may be specially built to adapt them to the invention.

I have shown the openings f of less height (see Fig. 4) than the narrower opening e in the edge of the panel; but this is not important. These openings might be of the same 60 dimensions, measured vertically.

Having thus described my invention, I claim—

1. A car having an upright hollow raised panel b on its side, which panel forms a part 65 of the car-body and projects out somewhat from the adjacent surface of the side of the car, said panel having in its upright edge, which faces toward the end of the car, an aperture e , whereat the air enters the hollow 70 within the panel when the car is in motion, and an opening f from said hollow into the car, substantially as set forth.

2. A car having an upright hollow raised panel b on its side between adjacent windows, 75 said panel forming a part of the side of the car and having apertures e in its opposite upright edges, which face toward the respective ends of the car, an opening f from the hollow of the panel into the car, and a partition 80 within the hollow of the panel between said apertures e , substantially as set forth.

3. The combination, with a car having an upright hollow raised panel b on its side, which panel forms a part of the side of the car and projects out beyond the adjacent surface of 85 the same and has apertures e in its upright edges facing toward the respective ends of the car, of a dust-arrester arranged in the hollow of said panel between said apertures e , an air-inlet f , whereat the air enters the car from said hollow in the panel, and a register which controls said inlet f , substantially as set forth. 90

4. The combination, with a car having an upright hollow raised panel b on its side, which panel forms a part of the side of the car, projects beyond the adjacent surface of the same, and has apertures e in its opposite edges, which face toward the respective ends of the car, and an air-inlet f , leading from the hollow of the panel into the car, of a shifting dust-arrester and air-deflector arranged within the hollow of the panel between the apertures e , and a register controlling the air-inlet f , substantially as set forth. 105

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY A. DIRKES.

Witnesses:

HENRY CONNETT,
HERBERT BLOSSOM.