No. 615,275. Patented Dec. 6, 1898.

R. S. HOWLAND.

CAR VENTILATOR.

(Application filed July 26, 1898.)

(No Model.)

Fig. 1.

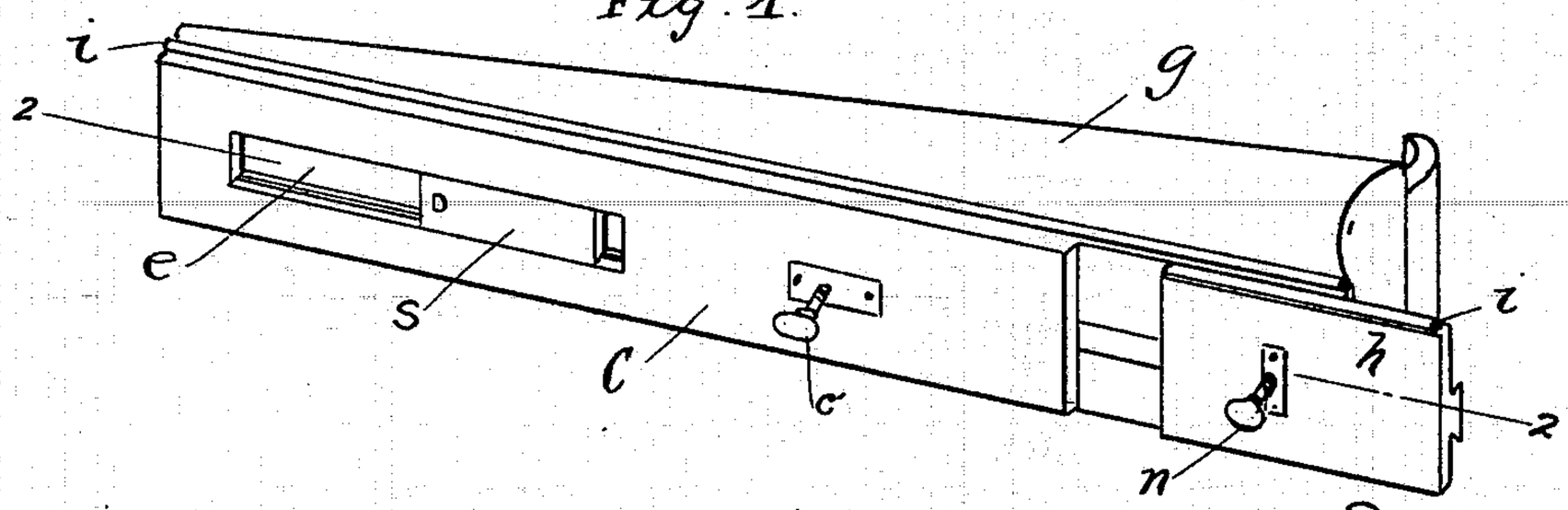


Fig. 2.

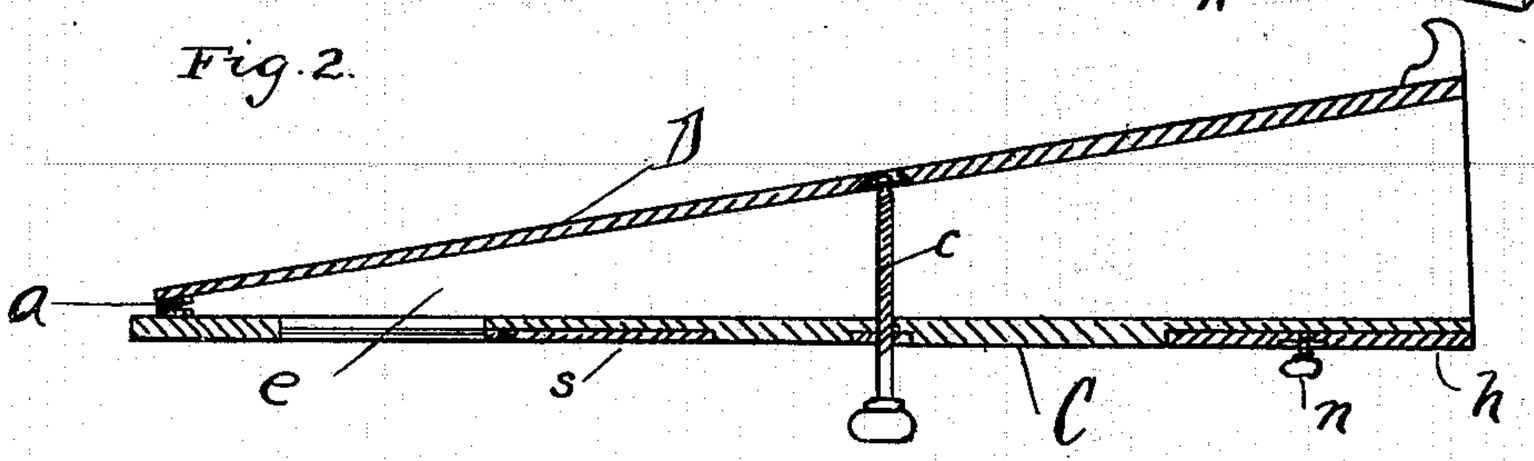
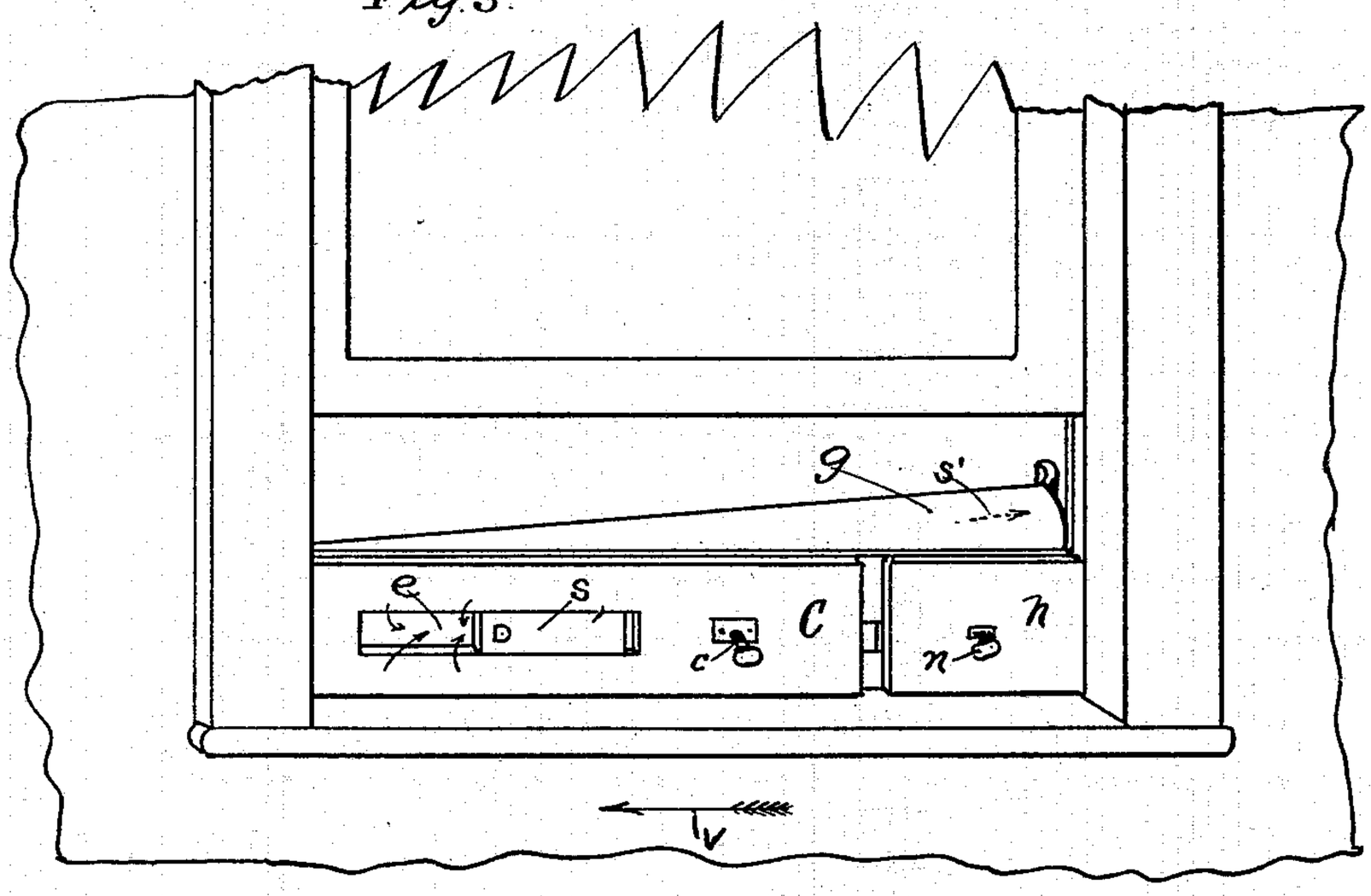


Fig. 3.



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UNITED STATES PATENT OFFICE.

RICHARD S. HOWLAND, OF PROVIDENCE, RHODE ISLAND.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 615,275, dated December 6, 1898.

Application filed July 26, 1898. Serial No. 686,923. (No model.)

To all whom it may concern:

Be it known that I, RICHARD S. HOWLAND, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Car-Ventilators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the class of car-ventilators that are adapted for use in the windows of railway-cars, and is more especially intended for use in sleeping-cars.

It is fully explained and illustrated in this specification and the accompanying drawings.

Figure 1 represents the ventilator in perspective. Fig. 2 shows a horizontal section of the ventilator, taken on line 2 2 in Fig. 1. Fig. 3 shows the ventilator in position in a car-window.

The object of this invention is to produce a simple ventilating device for cars that will relieve them of objectionable air and that is provided with means for regulating its operation to have more or less effect, as may be desired, and small enough to be portable, so that a traveler may take it with him on a journey.

A narrow strip of wood or other suitable material C is made of a proper length to go into a car-window, and a narrow thin strip D, of nearly the same length as the strip C, is attached to that strip at one end by means of a hinge *a*. The two strips C and D are joined together their whole length on both top and bottom edges by strips *g g*, preferably of a flexible material—such as rubber cloth, for instance—so that the strip D may be opened from the strip C at its free end, like a pair of bellows, and form a chamber between the strips entirely closed at one end. The strips C and D are held at a greater or less distance apart from each other by means of a thumb-screw *c*, which is fitted to screw through the strip C and is connected to the strip D by a joint to allow a small lateral movement to the screw. An oblong opening *e* is made through the strip C into the chamber between the two strips, and this opening is provided with a sliding cover *s* to regulate the size of the opening *e* and control the draft of air out of the car according to the speed of the train. A short thin piece *h*, of the same material and of the same width as the strip C, is let into it level at one end for the purpose of increasing the length of the front strip C, if necessary, to fill a wide window, and a set-screw *n* is inserted to screw through the piece *h* and bear on the main strip C to hold it wherever it may be set. A strip of rubber packing *i* is attached to the edge of the strips C and *h* to make a close fit with the sash and casement and keep out the dust.

In use the ventilator is placed horizontally in the window, as shown in Fig. 3, with the strip C inside and the open end toward the rear of the car, and the sash is then shut down on the rubber packing *i*. The arrow *v* in Fig. 3 indicates the direction the car is going. The passage of the air on the outside of the car by the open end of the ventilator as the car goes will produce a draft of the impure air from the inside of the car through the opening *e* and between the strips C D and out of the open end of the ventilator, as indicated by the arrow *s*, that will thoroughly ventilate the car and prevent the entrance of any dust or smoke without subjecting the passenger to a direct current of air, as ventilators do that cause a draft of air into the car.

By turning the thumb-screw *c* the outer strip D can be pushed from or drawn toward the inner strip C and the size of the aperture at the open end varied at will, and by sliding the cover *s* more or less over the oblong opening *e* the draft can be still further controlled.

This makes a very effective ventilator, especially adapted for use in the sleeping-car, where a perfect personal control of the draft is of great importance and a direct current of air on a sleeper is very objectionable. Its simple construction, easy management, and small size make it particularly adapted for the traveler to take with him on a journey.

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

1. In a railway-car ventilator the combination of two narrow strips of material hinged close together at one end, with bands of flexible material connecting said strips together

at their edges, forming a chamber closed at one end and open at the other, with means for regulating the distance between said strips, an opening in one of said strips to allow the impure air from the inside of the car to pass out, with a cover to regulate the size of said opening, substantially as described.

2. In a railway-car ventilator the combination of two narrow strips of material hinged together at one end, with bands of flexible material connecting said strips together at their edges, a thumb-screw passing through one of the strips and connected to the other strip, to regulate the distance between them, an opening in one of said strips communicating with the space between them, with means for regulating the size of said opening, substantially as described.

3. In a railway-car ventilator the combination of two narrow strips of material hinged together at one end, with bands of flexible material connecting said strips together at their edges, a thumb-screw passing through one of the strips and connected to the other strip, to regulate the distance between them, an opening in one of said strips communicating with the space between them, with means for regulating the size of said opening, an extension-piece to slide on the main strip to lengthen it out, with means for making it fast when set, and a strip of compressible packing made fast on the upper and lower edges of the main strip, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of July, A. D. 1898.

RICHARD S. HOWLAND.

In presence of—

NATHAN M. WRIGHT,

BENJ. ARNOLD.