(No Model.) 2 Sheets—Sheet 1.

H. R. ADAMS.

METHOD OF AND APPARATUS FOR VENTILATING RAILWAY CARS.

No. 359,761. Patented Mar. 22, 1887.

Fig. 1.

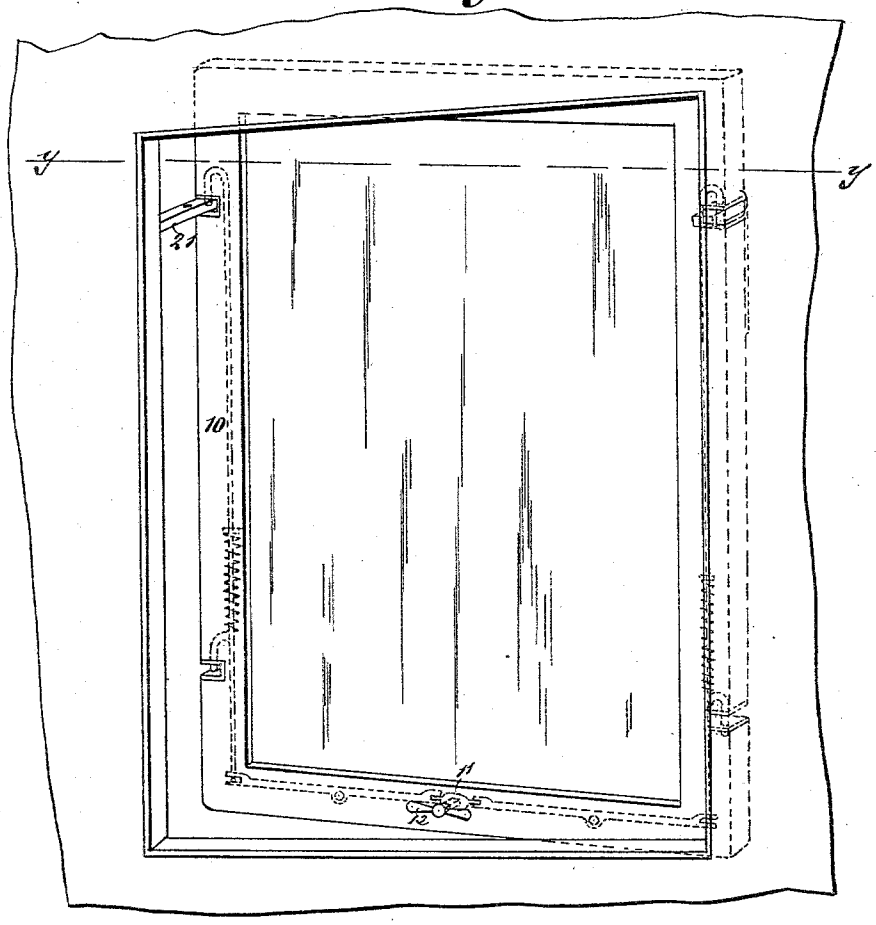
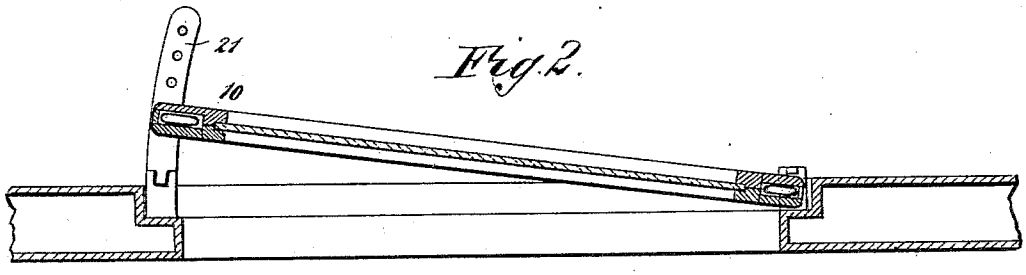


Fig. 2.



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H. R. ADAMS.

METHOD OF AND APPARATUS FOR VENTILATING RAILWAY CARS.

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Fig. 6

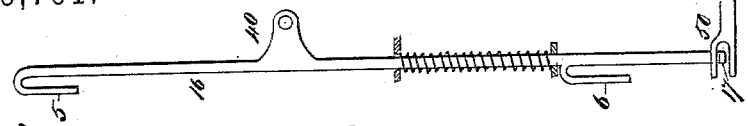


Fig. 5

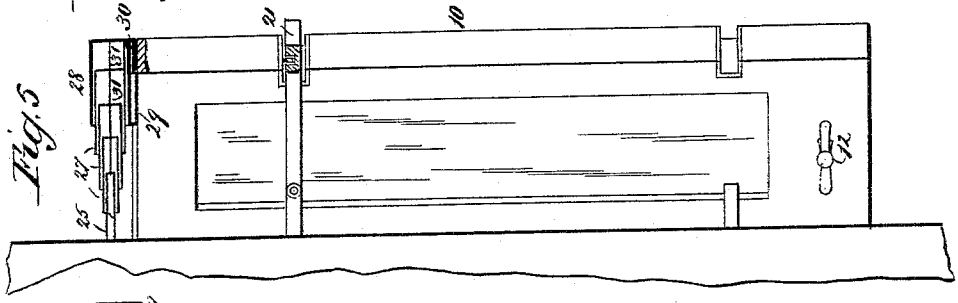


Fig. 4

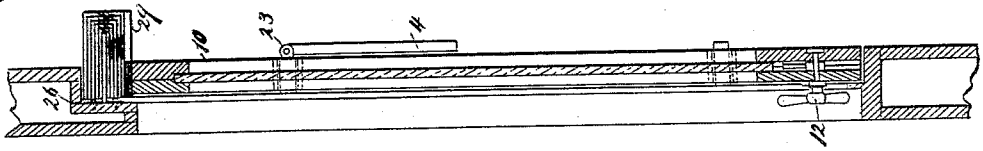


Fig. 3

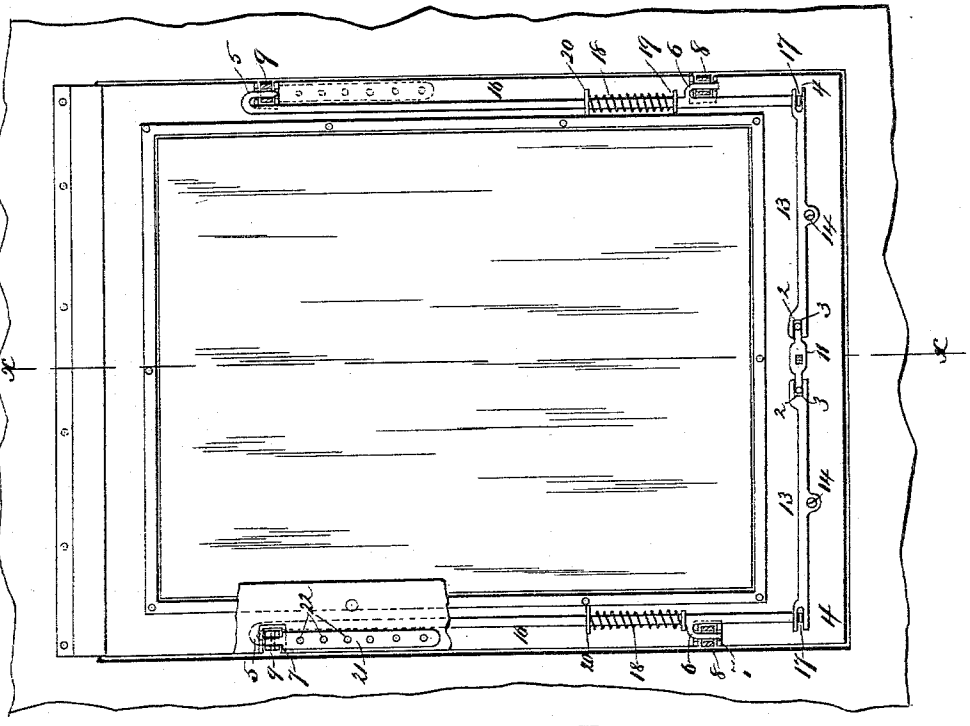
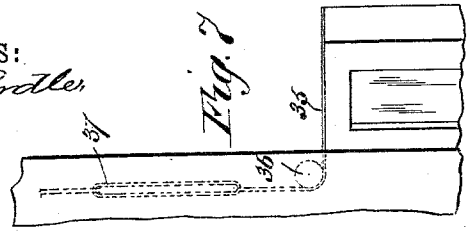


Fig. 7



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UNITED STATES PATENT OFFICE.

HIRAM R. ADAMS, OF BOSTON, MASSACHUSETTS.

METHOD OF AND APPARATUS FOR VENTILATING RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 359,761, dated March 22, 1887.

Application filed April 27, 1886. Serial No. 200,293. (No model.)

To all whom it may concern:

Be it known that I, HIRAM R. ADAMS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Apparatus for Ventilating Railway-Cars, of which the following is a full, clear, and exact description.

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

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the figures.

Figure 1 is a view taken from the interior of the car, representing the sash as thrown to the open position. Fig. 2 is a sectional plan view taken on line *y y* of Fig. 1. Fig. 3 is a view taken from the outer side of the sash, the greater portion of the outer half of the sash-frame being removed to disclose the construction of the double-hinging attachment. Fig. 4 is a vertical cross-sectional view taken on line *x x* of Fig. 3. Fig. 5 is a view of the sash as it appears when open from a position outside of the car and behind the sash, certain portions being broken away and shown in section. Fig. 6 is a view of a modified arrangement of the operating mechanism; and Fig. 7 is a view of the upper portion of the partially-open sash, representing a modified arrangement of the screen.

In constructing a sash, such as the one illustrated in the drawings above referred to, I provide a sash-frame, 10, made up of two similar sections, that are united by bolts, screws, pins, or by any other means desired, the meeting faces of the two sections being properly recessed in order to receive such a mechanism as will now be described.

In the recess at the lower portion of the two sections of the sash-frames I mount a central lever, 11, that is provided with a handle, 12, the said handle being arranged upon the inner face of the sash. The lever 11 carries two pins, 2 2, which ride in slots 3 3, formed in the ends of levers 13, which are centrally connected to the sash by means of pivot pins or bolts 14. The outer end of each of the levers 13 is slotted, as shown at 4. In the recesses between the meeting faces of the two sections of the sash, upon either side of the glass, there are arranged vertical sliding rods 16, which are formed with pins or pintles 5 and 6, that are arranged to pass through apertures formed in metallic boxings 7, that are carried by the sash, lugs 8 and 9 being fixed to the window-casing in such position that when the sash is closed they will enter the boxings 7, there to be engaged by the pintles 5 and 6, as clearly shown. The lower end of each of the sliding bars 16 is formed with an angular projection, 17, which projections fit within the slots 4, formed at the ends of the levers 13. The bars 16 are normally held in the position in which they are shown in Fig. 3 by springs 18, said springs being coiled about the bars and arranged so that one end will abut against the collar 19 carried by the bars, while the other end will abut against a guiding-stop, 20, through which the bars pass, which said guiding-stop is fixed to the sash.

From the construction described it will be seen that by turning the handle 12 the lever 11 will be moved so as to throw the inner end of one of the levers, 13, down, while the inner end of the other lever will be thrown up, when the rod in engagement with the slotted end of the levers 13, the inner end of which has been thrown down, will be raised and its pintles 5 and 6 will be thrown out of engagement with the lugs 8 and 9, while the pintles upon the other rod, 16, will be depressed and will serve as hinge-pintles upon which the sash will be free to swing. In order that the sash may be held in any desired position, I provide each of the lugs 9 with a metallic strip, 21, that is provided with recesses 22, said recesses being formed in the outer or upper surface of the bar. These bars 21 are hinged to the lugs 9, the lugs extending outward through the sash, and the hinge 23, by which connection between the parts is established, being so placed that the bars will be free to drop to the position shown in Fig. 4 when the sash is closed; but as the sash is opened the bar upon that side of the sash which is swung outward will be drawn up to the position shown in Fig. 5, and the pintle 5 may be dropped into the recess adapted to hold the sash in the required position.

In order that cinders, dust, smoke, &c., may be prevented from entering the cars through the open space above the window, I provide such a construction as is best shown in Figs.

4 and 5, wherein I illustrate a series of telescopically-united box-like structures, of which the inner one, 25, is secured within a recess, 26, formed in the window-casing above the sash, the said inner section, 25, being provided with flanges, by means of which connection is made with the casing-screws or other proper retaining devices being passed through the said flanges. In connection with the inner section, 25, I employ intermediate sections, 27, and an outer section, 28, which said outer section is provided at either end with a strap or loop, 29, that is engaged by a clip, 30, carried by the sash, said clips being arranged upon the upper face and at each end of the sash.

The several sections of the telescopically-jointed screen are united by cords 31, which prevent the undue unfolding of any two of the sections, acting to distribute the motion equally throughout all the sections.

If desired, a screen similar to the one described could be arranged below the sash. In Fig. 7 I show a modified form of screen, which consists of a strip of leather, cloth, or any other proper material, 35, that is secured to the upper edge of the sash and passes inward and over a roller, 36, fixed in the casing above the sash, the inner edge of the strip 35 being secured to elastic bands 37 that are made fast, as indicated, so that as one side of the lever is thrown up the strip 35 will also be drawn out to cover the opening and prevent the entrance of smoke, cinders, &c.

In Fig. 6 I illustrate a construction wherein the vertical rods 16 are arranged to be actuated by handles placed upon either side of the sash, and in this case the lower lever shown at 50 would be pivotally connected to the center of the sash, and would not be divided as in the case of the levers 13, connection between the rod 16 and the handle being established through the medium of the lug or arm 40.

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

1. The combination, with the frame having upper and lower recessed lugs, of the sash provided at its opposite sides with recesses to receive said lugs and with vertically-sliding rods having pintles projecting downward from their opposite outer sides and extending into said recesses to engage said recessed lugs, and means for alternately operating said rods, substantially as set forth.

2. The combination, with the frame having recessed lugs and the sash having recesses in its opposite sides to receive said lugs and boxings within said sash-recesses having vertical apertures, of the vertically-sliding rods within the opposite side rails of the sash, springs pressing said rods downward, pintles on opposite sides of the rods parallel therewith and extending through the apertured boxes and into the said recessed lugs, levers pivoted to the lower rail of the sash and engaging the lower ends of the vertical rods with their outer ends, and a central lever engaging the inner ends of the said levers and provided with an operating-handle, substantially as set forth.

3. The combination of the frame having the upper and lower recessed lugs and bars pivotally connected to the outer ends of one of said lugs at each side of the frame and having a series of recesses with the vertically-sliding rods having upper and lower pintles which engage the said recessed lugs, the pintles engaging the lugs to which the recess-bars are pivoted being adapted to engage said bars when they are extended by the outward movement of the sash, substantially as set forth.

4. The combination, with a sash adapted to be swung outwardly at either side of the extensible screen connected at its inner end to the frame and at its outer end to one edge of the sash, substantially as set forth.

5. The combination, with the frame having a telescopic screen the inner section of which is connected thereto, of a doubly-swinging sash to one edge of which the outer section of the screen is secured, substantially as set forth.

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Witnesses:
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