

No. 838,909.

PATENTED DEC. 18, 1906.

A. P. SCHEURMAN.
CAR VENTILATOR.

APPLICATION FILED MAY 19, 1905.

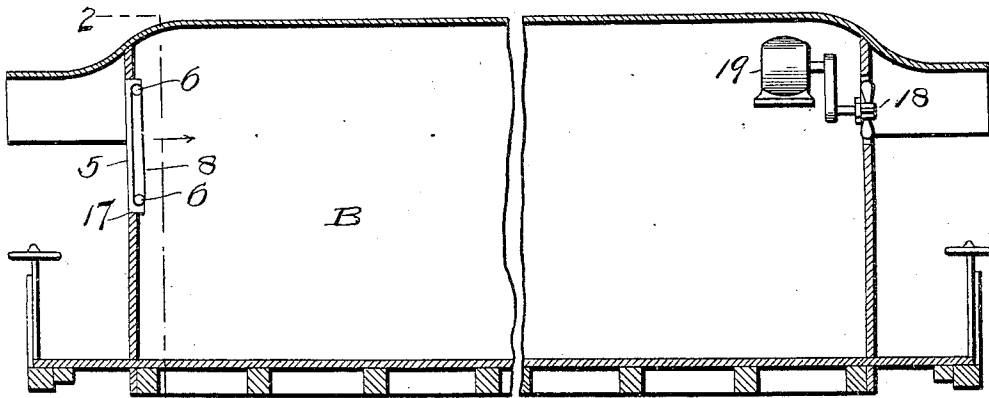


Fig. 1.

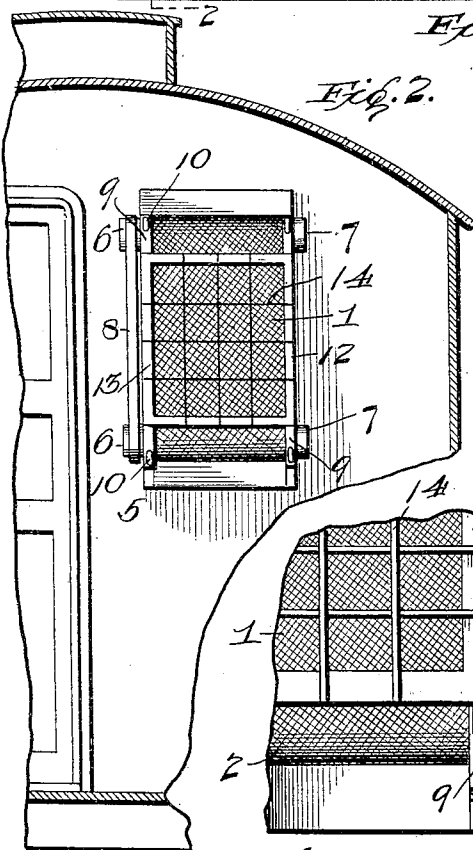


Fig. 2.

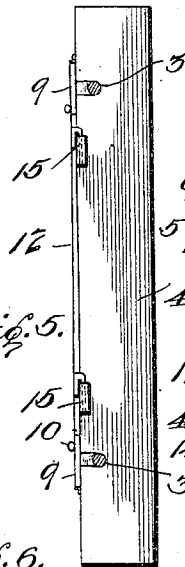


Fig. 5.

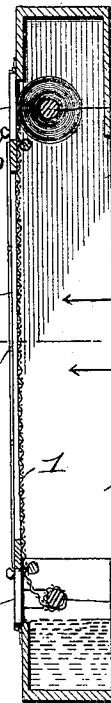


Fig. 3.

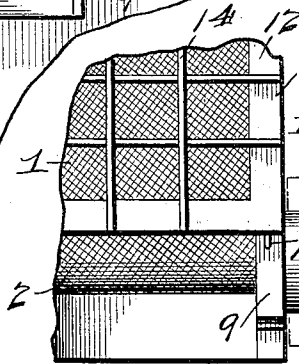


Fig. 6.

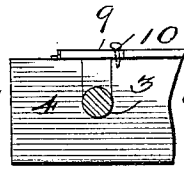


Fig. 7.

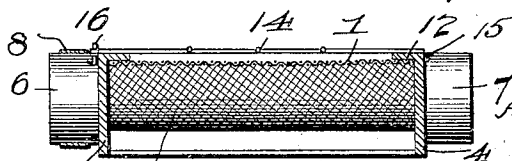


Fig. 4.

Witnesses
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CAR-VENTILATOR.

No. 838,909.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, AUGUST P. SCHEURMAN, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Car-Ventilators, of which the following is a specification.

This invention relates to car ventilation, and has special reference to an improved ventilator comprising simple and practical means for effectually excluding dust and cinders from the car, while at the same time maintaining a constant circulation of fresh air throughout the entire length of the car-body, thus insuring a cooling action and at the same time maintaining the best possible sanitary conditions.

With these and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

The essential feature of the invention involved in the employment of a shiftable wet textile screen as the fresh-air inlet is susceptible to a wide range of structural modification without departing from the scope of the invention; but a simple and practical embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a diagrammatic sectional view of a railway-coach, showing the improved ventilator associated with a draft appliance or suction-fan for disposing of vitiated hot air, while fresh filtered air is drawn into the coach through the ventilator. Fig. 2, is an enlarged sectional view on the line 2 2 of Fig. 1, the view showing the ventilator in elevation. Fig. 3 is a longitudinal sectional view of the ventilator, the direction of the air-currents therethrough being indicated by the arrows. Fig. 4 is a cross-sectional view on the line 4 4 of Fig. 3. Fig. 5 is a side elevation of the ventilator, showing the detachable hinge-mounting for the stationary guard-screen. Fig. 6 is an enlarged elevation of a fragment of the ventilator. Fig. 7 is a detail sectional view on the line 7 7 of Fig. 6, illustrating an expedient for temporarily latching or retaining the spindles of the carrying-rollers in their bearing-notches.

Like reference-numerals designate corresponding parts in the several figures of the drawings.

The distinctive feature of the present invention resides in a shiftable wet air-filtering screen of textile fabric which is arranged to constitute the air-inlet through which the fresh air is filtered before entering the car. This shiftable wet air-filtering screen may be mounted in a variety of ways and arranged in divers positions on a car without affecting the function thereof to maintain a wet filtering-surface through which the air is filtered and separated from dust, cinders, and other foreign matter; but for illustrative purposes there is shown in the accompanying drawings a simple and practical construction which may be utilized in carrying out the invention, and referring particularly to this embodiment the numeral 1 designates the shiftable air-filtering screen made of textile material, such as coarsely-woven cloth or material similar to Turkish toweling, which can be easily maintained in a wet condition and at the same time will thoroughly sift dust and cinders out of the air-currents drawn into the car. This textile air-filtering screen 1 may be of any length desired, but is always of a sufficient length to provide a surplus of material which winds and unwinds on oppositely-arranged carrying-rollers 2, having their spindle extremities journaled in bearing-notches 3, provided in one edge of the opposite side portions 4 of an open-sided supporting-casing 5.

The casing 5 is open at front and back, and the open side thereof through which the air-currents enter the car or coach is designed to be covered by the textile air-filtering screen 1. The spindle extremities of the oppositely-arranged carrying-rollers 2 project beyond the sides 4 of the casing, and at one end the same have mounted thereon the belt-wheels 6, while their opposite ends have mounted thereon the adjusting-knobs 7, which provide convenient means for manipulating the rollers to adjust or shift the air-filtering screen when it is desired to bring a fresh wet surface into operative position. In this connection it is preferable to connect the belt-wheels 6 by an endless elastic belt 8, which insures a synchronous movement of both carrying-rollers when either adjusting-knob 7 is manipulated, while at the same time by reason of being under a tension acts as a holding device to prevent movement of the parts under the vibration of the train.

The rollers 2 are removable from the supporting-casing and may be detachably held

within their bearing-notches 3 through the medium of roller-retaining latches 9, mounted upon the casing sides 4 over said notches and temporarily held fastened in their closed positions through the medium of set-screws 10 or equivalent fastening devices.

The casing 5 is preferably provided therein with a water-reservoir 11, which is kept filled with water to a sufficient depth to always submerge a portion of the textile air-filtering screen, and thus provide means for maintaining said screen thoroughly wet through capillary action and at the same time permitting a clean wet portion of the screen to be unrolled and presented over the open side of the casing covered by the screen.

To protect the air-filtering screen from the stretching and bulging pressure of the air passing therethrough, there is preferably employed a stationary rigid guard-screen 12, essentially consisting of an open frame 13 and a foraminous body portion 14, secured to said frame and preferably consisting of intersecting or crossing wires or rods, as plainly shown in the drawings. This rigid guard-screen 12 is arranged over one side of the textile air-filtering screen and is preferably hinged at one edge to one side of the casing through the medium of separable hinges 15, which readily permit of the disconnection or separation of the guard-screen from the supporting-casing and also permit the guard-screen to be swung over and away from the textile fabric whenever desired or necessary. In its closed operative position over the wet screen the said rigid guard-screen is held fastened through the medium of a suitable temporary fastening device 16, connecting the unhinged edge thereof to one side of the supporting-casing.

The ventilator described above may be arranged in any suitable location on the car-body. It can be fitted over any window or

opening in cars already built and in new cars can be built into the walls thereof. However, a practical application of the invention is shown in the drawings and consists in mounting the ventilator within or over an opening 17 at one end of the car-body B (see Fig. 1) and arranging at the opposite end of the body a draft appliance 18, preferably in the form of a suction-fan driven from a motor 19 or equivalent device and providing means for maintaining a gentle circulation throughout the entire coach. This draft appliance or fan 18 disposes of the hot vitiated air and insures a draft through the wet screen 1, which causes fresh filtered air to enter the coach. If desired, the air drawn through the wet screen can be medicated by wetting the screen with a disinfectant or other chemical.

From the foregoing it is thought that the construction, use, and advantages of the herein-described ventilator will be readily apparent without further description.

Having thus described the invention, what I claim is—

In a car-ventilator, a casing having open sides, and also provided with a liquid-reservoir, removable supporting-rollers journaled in the casing, roller-retaining means fitted to the casing, a textile filtering-screen winding on the rollers and covering one of the open sides of the casing, means for shifting the screen, a stationary rigid guard-screen, said guard-screen having a hinged connection at one edge with the casing, and a temporary fastening for the opposite edge of the guard-screen.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUST P. SCHEURMAN.

Witnesses:

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