

(No Model.)

F. SWANSON.
CAR WINDOW.

No. 496,454.

Patented May 2, 1893.

Fig. 1.

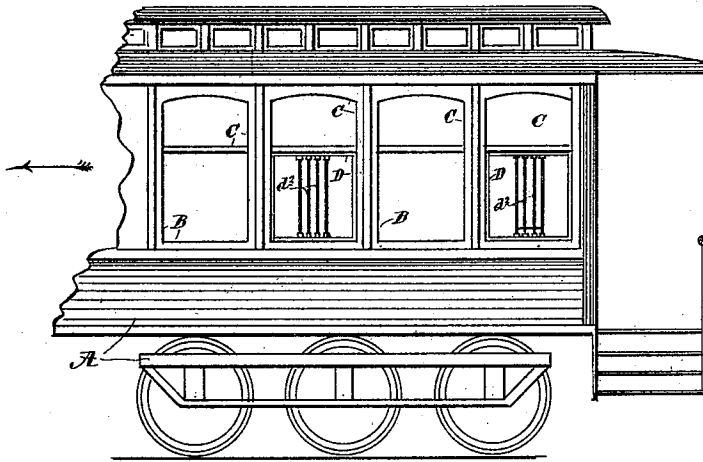


Fig. 2.

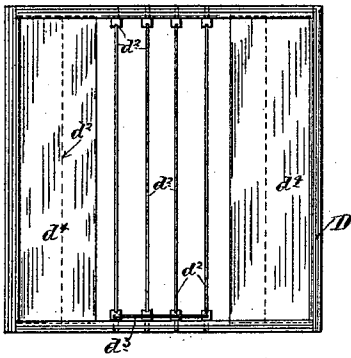


Fig. 3.

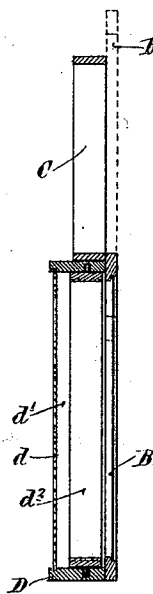
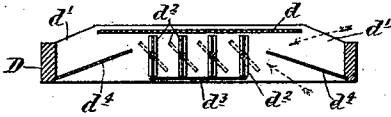


Fig. 4.



Witnesses.

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FRED SWANSON, OF CAMPBELL, MINNESOTA.

CAR-WINDOW.

SPECIFICATION forming part of Letters Patent No. 496,454, dated May 2, 1893.

Application filed June 18, 1892. Serial No. 437,218. (No model.)

To all whom it may concern:

Be it known that I, FRED SWANSON, a citizen of the United States, residing at Campbell, in the county of Wilkin and State of Minnesota, have invented certain new and useful Improvements in Car-Windows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to car-windows; and has for its object to provide a window which will afford good ventilation, while excluding the dust and cinders. To this end I provide a sash having panes arranged with special reference to the passage of the air and the light, while excluding the dust and the cinders, which may be applied outside the sash, at the ordinary car-window, in a manner somewhat similar to the application of storm-windows; or it may be arranged to be inserted under the lower sash, when raised, in a manner similar to the usage of the ordinary screen. This special sash has a series of vertically pivoted narrow panes forming overlapping joints with each other and connected by a link, for angular adjustment by a common movement; an outside pane of less width than the width of the sash so as to leave marginal openings for the admission of the air, and a pair of marginal panes, extending outward on an angle from the inside edges of the side bars of the sash, and overlapping the outside pane, but spaced apart therefrom to leave a passage for the air.

The invention is illustrated in the accompanying drawings, wherein like letters refer to like parts throughout.

Figure 1 is a side elevation of a part of a car equipped with one or more of my ventilating windows. Fig. 2 is a front elevation of one of my windows detached, looking from the inside toward the outside of the car. Fig. 3 is a vertical cross-section of the same, and Fig. 4 is a horizontal cross-section.

A represents the car, B the lower sash, and C the upper sash of the ordinary window.

D represents the sash of my special window. The top and bottom bars of the sash are wider than the side bars, and are arranged to extend outward therefrom.

d is the outside pane secured between the top and bottom bars of the sash, at their ex-

tended part, and is of less width than the width of the sash, so as to leave marginal openings, as shown at d' .

d^2 is the series of vertically pivoted narrow panes journaled in the top and bottom bars of the sash, and connected by a common link or operating rod d^3 . These pivoted panes are sufficiently near each other, so that when turned approximately into the same plane they will overlap or form tight joints with each other.

d^4 is the marginal panes, extending from the inner margin of the side bars of the sash outward, at an angle and terminating near the pivoted panes and forming overlapping joints with the outside pane and spaced apart from both, to permit the passage of the air.

The ventilating window may be applied, as shown in Fig. 3, outside the lower sash and under the upper sash of the ordinary window. When ventilation is desired, the lower sash B of the ordinary window, may be raised into the dotted line position, shown in Fig. 3, and the ventilating window be brought into action. The pivoted panes d^2 may then be adjusted to any desired angle, which is preferably backward with reference to the direction of the movement of the car, and an out-current draft will be produced, the currents moving as shown by the arrows in Fig. 4. The outside current under the movement of the car will enter the forward marginal opening d' , and will be successively deflected, by the marginal pane d^4 , and the pivoted panes d^2 , and will pass backward between the said pivoted panes and the outside pane and escape through the back marginal opening d' . The suction from this current will produce an out-draft and outward movement of the air from within the car. The marginal openings are so small that comparatively little dust or cinders will enter with the air; and whatever does enter will either be precipitated on the first deflecting surface d^4 , or be carried backward and out, by the outward moving currents of air. The dust and cinders will therefore not enter the car at all, but will either be carried through the ventilating window, between the pivoted panes and the outside pane, or be caught in the pocket formed by the forward marginal pane and side-bar of the sash. If the pivoted panes be turned the other way, they will de-

flect the outside current into the car, but owing to the action of the marginal pane d^4 , as before stated, little if any dust or cinders will be passed inward therewith. What few cinders do enter will be precipitated directly at the ventilating window, inasmuch as the cinders cannot change their direction as quickly as the moving current of air, when intercepted by the deflecting surfaces formed by the pivoted panes.

This form of window affords the much needed ventilation without materially interfering with the outlook.

In the winter season or at other times, when not required it may be readily removed. When in use, it does not interfere with the ordinary window.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a car-window, the combination with an outside pane of less width than the sash, so as to leave side or marginal openings, of a series of vertically pivoted panes located back of said outside pane, adjustable at common transverse angles thereto, and co-operating therewith, to effect a forced circulation of air under the movement of the car, while excluding the dust and cinders.

2. In a car-window, the combination with an outside pane of less width than the sash,

so as to leave marginal openings, of a series of vertically pivoted narrow panes located back of said outside pane, adjustable at common transverse angles thereto, and marginal panes extending from the inside margin of the sash outward on an angle and terminating near the pivoted panes, forming joints with the outside panes and spaced apart from both, substantially as described.

3. The car-window, comprising a sash with outwardly extended top and bottom bars, the outside pane d of less width than the width of the sash, secured between said extended parts, to leave the marginal openings d' , the pivoted narrow panes d^2 , in vertical arrangement and forming overlapping joints with each other, when turned approximately parallel with the outside pane d the operating rod d^3 secured thereto, and the marginal panes d^4 , extending outward on an angle from the inner margins of the side-bars of the sash and breaking joints with the outside pane and spaced apart therefrom and from the said pivoted panes, substantially as described.

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

FRED SWANSON.

Witnesses:

JULIA WICK,
MAY SWANSON.