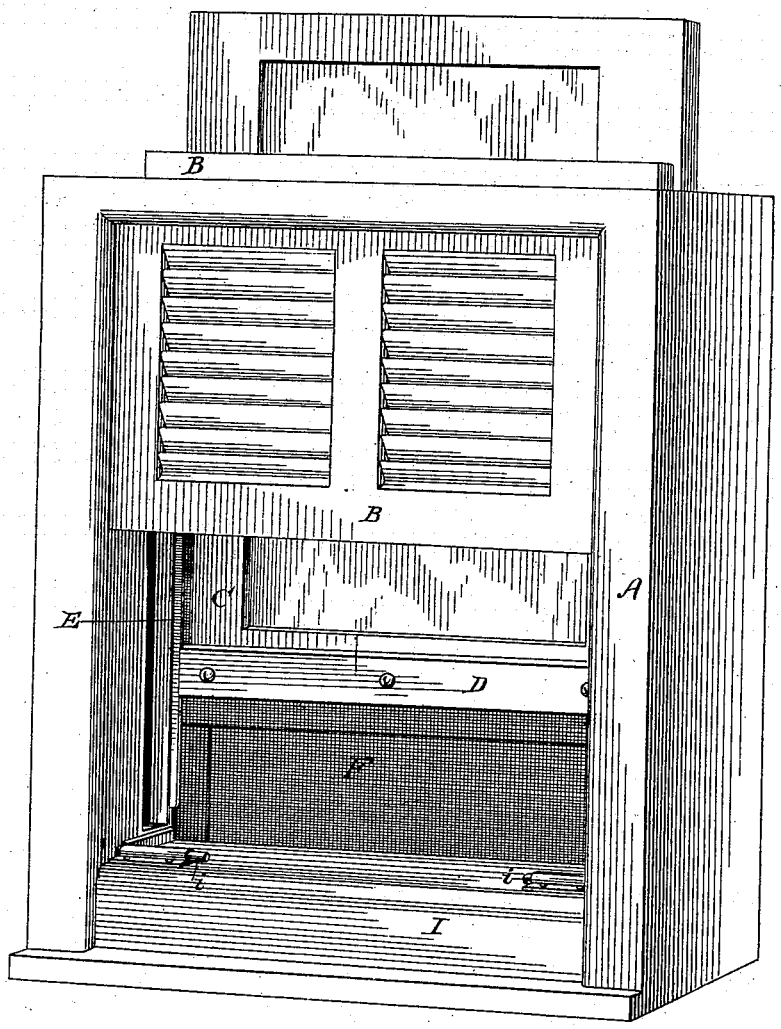
2 Sheets—Sheet 1.

J. C. WALKER & T. H. HUNT.

Window-Screen.

No. 199,335. **Patented Jan. 15, 1878.**

Fig. 1.



WITNESSES:

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2 Sheets—Sheet 2.

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No. 199,335. **Patented Jan. 15, 1878.**

Fig. 2.

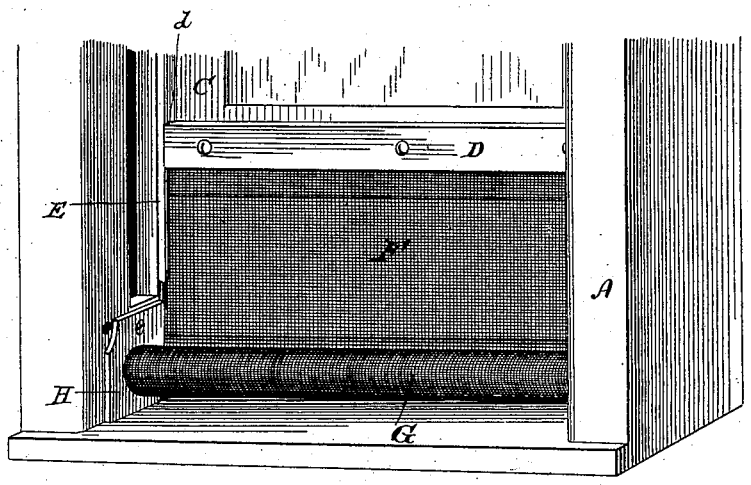


Fig. 3.

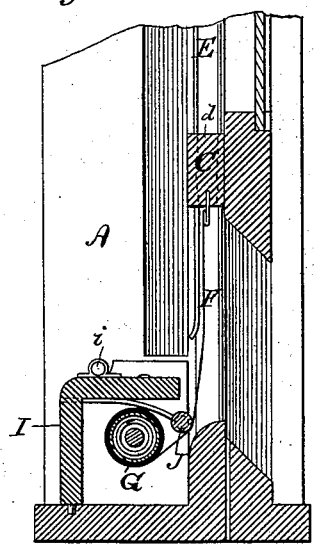
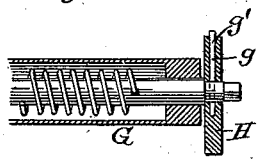


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES C. WALKER, OF LIVONIA, AND THOMAS H. HUNT, OF ALPENA, MICHIGAN.

IMPROVEMENT IN WINDOW-SCREENS.

Specification forming part of Letters Patent No. **199,335**, dated January 15, 1878; application filed November 9, 1877.

To all whom it may concern:

Be it known that we, JAMES C. WALKER, of Livonia, county of Wayne, and THOMAS H. HUNT, of Alpena, county of Alpena, both places in the State of Michigan, have invented certain new and useful Improvements in Window-Screens for Railroad-Cars, of which the following is a clear, full, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of our invention with the screen partially raised. Fig. 2 is the same view with the roller-case removed. Fig. 3 is a transverse vertical section; Fig. 4, a detail view.

This invention relates to improvements in window-screens for railroad-cars, whereby the sparks, cinders, &c., are prevented from entering the coaches; and the invention consists in the general construction and arrangements of parts, as will be hereinafter fully described.

To enable others skilled in the art to make and use our invention, we will proceed to describe the exact manner in which we have carried it out.

In the drawings, A represents the window-casing of a car-coach, and B the upper and lower blinds therefor. C represents the window-sash, arranged to be raised vertically up through the top of the casing in the usual manner. To the lower end of the window-sash C is removably secured the transverse strip D. This strip is provided at each end with a tongue, *d*, which sits in the vertical metallic guides E secured to the casing. To this strip D is secured one end of the wire screen F, its opposite end being secured to the spring-roller G, around which said screen is rolled and unrolled. The screen is made as wide as the strip D, including its tongue *d*, so that the side edges of the screen will rest and travel in the metallic guides, thereby effectually preventing the sparks, cinders, &c., from coming inside of the coach when the window is raised.

It being necessary to have enough tension on the spring in the roller to cause the screen to roll itself thereon when the window is closed, one end of the shaft of the roller, to which the spring is secured, has a portion extending beyond the journal-plate made square, which extends into a recess in the window-casing. By means of the square portion the shaft can be turned to wind the spring thereon to the proper tension before the screen is placed in the window-casing, said shaft being secured or prevented from turning by a pin, *g*, passing through a hole, *g'*, arranged lengthwise through the journal-plate, and through a hole in the shaft G, as clearly shown in Fig. 4.

I represents the roller-case, arranged to fit between the window-casing and over the screen-roller G, which is secured in place on the window-casing by the bolts *i*, as shown in Fig. 3. J is a small spring presser-roller, secured on the under and inner side of roller-case I, so that when the roller-case is placed in position said spring-roller will press against the screen and keep it in close contact with the inner edge of window-sill, thereby preventing anything from passing into the roller-case or into the car.

The journal-plates H of the spring-roller G can be secured to the roller-case, instead of fastening them to the window-casing, whereby the whole device can be more readily removed for the purpose of repairing or cleaning.

In building new cars the screen-roller may be placed underneath the window-casing, the screen passing up through a slot in the casing, and being removably secured to the window frame or sash, as before described.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the window sash

and casing having the guides E and the spring-roller G, of the strip D, having the tongues *d* and the wire screen F secured to said strip, substantially as herein shown and described.

2. The combination, with the journal-plate H, having hole *g'*, and the pin *g*, of the spring-roller shaft, having a square portion extending beyond the journal-plate, substantially as and for the purpose herein shown and described.

3. The combination, with the spring-roller G and screen F, of the casing I, provided with the spring presser-roller J, substantially as and for the purpose herein described.

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THOMAS H. HUNT.

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