A. MITCHELL.

Cinder-Guard or Deflector for Railway-Carriage Windows.

No. 226,869. Patented April 27, 1880.

Fig. 1.

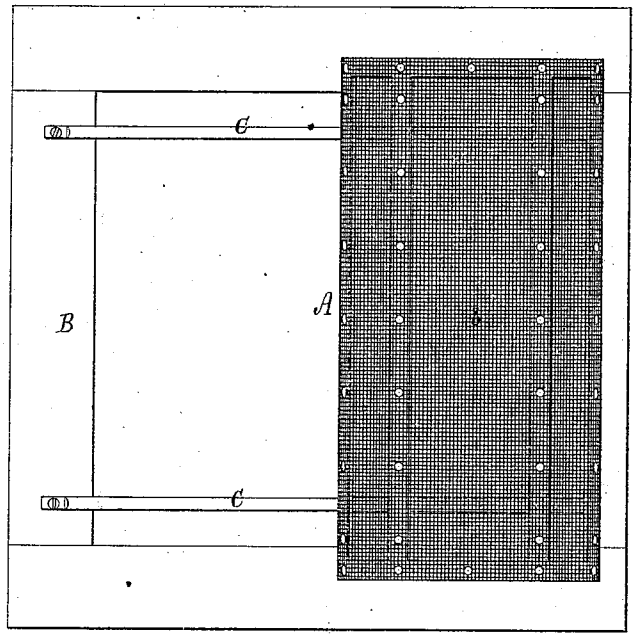



Fig. 3.

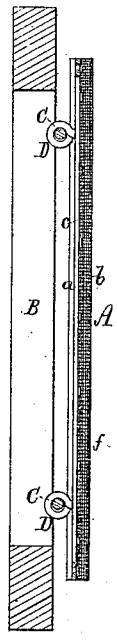



Fig. 2.

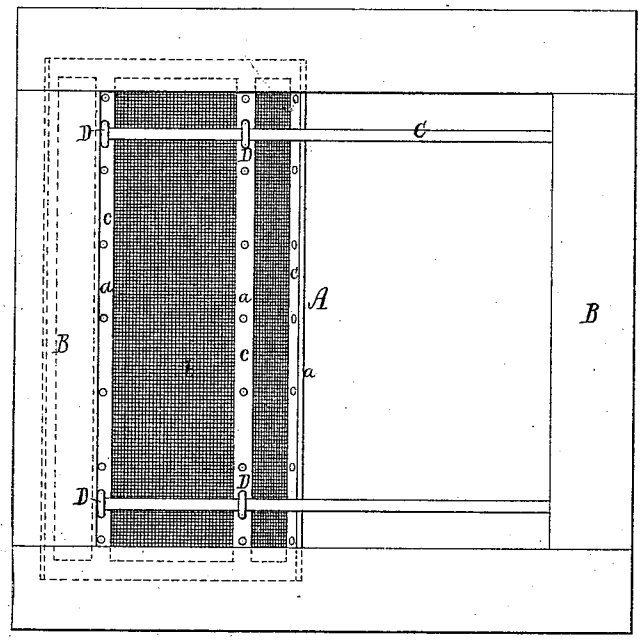
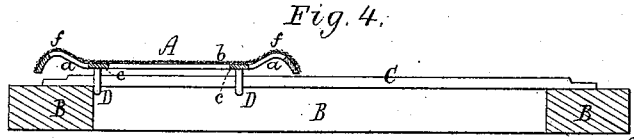



Fig. 4.




Witnesses.

S. N. Piper

H. W. Lunt

Inventor.

Alexander Mitchell

by attorney.

R. H. Eddy

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

ALEXANDER MITCHELL, OF EVERETT, MASSACHUSETTS.

## CINDER-GUARD OR DEFLECTOR FOR RAILWAY-CARRIAGE WINDOWS.

SPECIFICATION forming part of Letters Patent No. 226,869, dated April 27, 1880.

Application filed January 23, 1880.

*To all whom it may concern:*

Be it known that I, ALEXANDER MITCHELL, of Everett, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Cinder-Guards or Deflectors for Railway-Carriage Windows; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a rear elevation, Fig. 3 a vertical section, and Fig. 4 a horizontal section, of a car-window frame and a guard or deflector of my improved kind applied thereto.

Such guard or deflector (shown at A) I usually compose of a metallic frame, *a*, and a wire-gauze or foraminous sheet of metal, *b*, covering such frame from one to the other of the side bars and from one to the other of the end bars thereof, such frame, as represented in the drawings, having two intermediate bars, *c c*, arranged between its side bars, and extending from one to the other of the end bars and fastened thereto. In the drawings these rods are represented at C C as going through eyes D D projecting from the bars *c c*, hereinbefore mentioned. Furthermore, the guard or deflector is ridged at its opposite vertical edges, in manner as shown at *f f*, in order for it to deflect or discharge obliquely to the opening of the window-frame any sparks or cinders that may impinge against the outer surface of the guard while the carriage may be in motion in either direction on the railway-track.

The guard or deflector so made and applied may be moved across the window-frame and adjusted to such position as may be required, in whichever direction the car may be moving, the opening of the frame being but partially closed by the guard.

I am aware that before my invention it has been customary to make a car-ventilator of a curved non-transparent plate of metal provided with braces hinged to slides adapted to run on parallel bars, such bars as shown in the United States Patent No. 150,192. My improved cinder-guard differs therefrom in its construction, and, besides, it is differently applied or adapted to the car-window opening. In other words, it is ridged at its opposite vertical edges, and is foraminous, as hereinbefore mentioned, and is applied to the window-frame by means of two rods and four eyes, arranged as set forth.

What I claim, therefore, is as follows, viz:

The combination of the foraminous or woven-wire and ridged cinder-guard or deflector, as described, provided with eyes D, as explained, with the car window-frame and the slide-rods C adapted thereto, all being and to operate substantially as set forth.

ALEXANDER MITCHELL.

Witnesses:

R. H. EDDY,

W. W. LUNT.