(No Model.)

# W. P. TODD.

## PORTABLE WINDOW GUARD OR SCREEN.

No. 262,331. Patented Aug. 8, 1882.

Fig. 1.

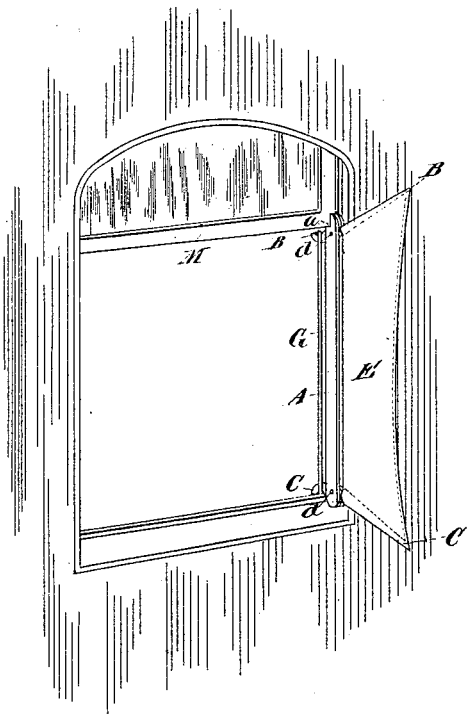



Fig. 2.

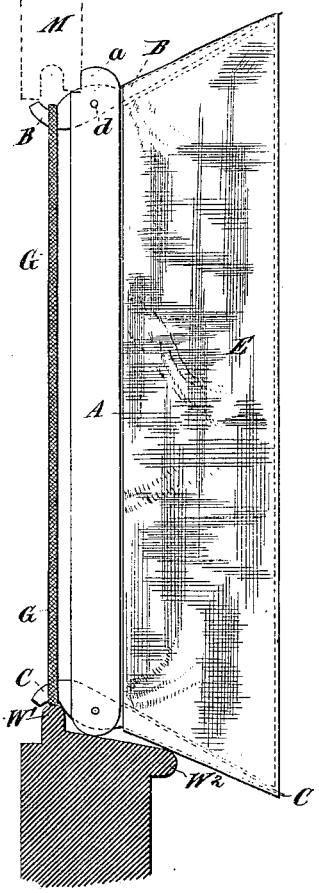



Fig. 3.

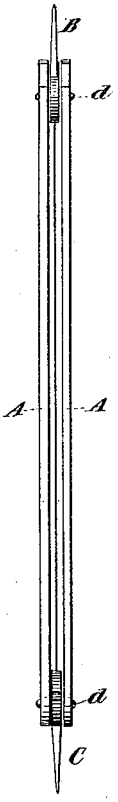
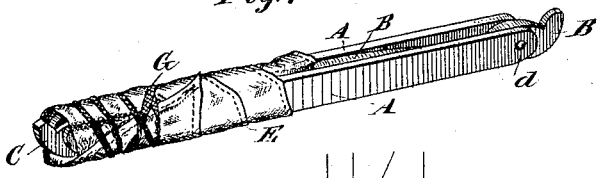



Fig. 4.




WITNESSES

Charles R. Searle,
M. F. Boyle.

INVENTOR

W. Platt Todd
by his attorney
Thomas D. Stetson.

# UNITED STATES PATENT OFFICE.

WILLIAM P. TODD, OF NEW ROCHELLE, NEW YORK.

## PORTABLE WINDOW GUARD OR SCREEN.

SPECIFICATION forming part of Letters Patent No. 262,331, dated August 8, 1882.

Application filed May 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM P. TODD, of New Rochelle, Westchester county, in the State of New York, have invented certain new and useful Improvements in Portable Window Guards or Screens, of which the following is a specification.

The invention may be used in any window which is exposed to a current of air moving laterally across.

I have experimented with railroad-car windows, and will describe it as applied thereto.

I provide a framing of a length adapted to be introduced below a window-sash when the latter is elevated, and having a wing on the outer edge, which deflects the air through which the car is moving, and causes the window to exhaust the air from the interior outward. Adequate provisions at the top or at other convenient points allow the air to enter at points where the cinders will not seriously incommode the passengers. The windows provided with my deflector take in no cinders, but simply lead a gentle current of air from the interior outward through the open window.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a perspective view, showing the device in use. Fig. 2 is a section (vertical) through a portion of the car with a face view of my device in use. Fig. 3 is an edge view of the device alone with the elastic removed or not yet applied. Fig. 4 is a view of the device in a folded condition for stowage or transportation when not in use.

Similar letters of reference indicate like parts in all the figures where they occur.

A is a frame composed of two flat parallel pieces of hard wood or other convenient material.

B and C are cross-pieces pivoted between the bar A by pivots *d*. One arm of each cross-piece is longer than the other. The longest arm is tapered and fitted tightly in a pocket in a flexible wing, E, of woolen fabric or other suitable flexible material adapted to deflect the cinders. The short arm of each cross-bar B and C is notched, and when the device is in use receives an elastic, G, the tension of which holds the fabric wing E gently stretched.

One end of the frame A has an offset, (shown at *a*.)

The flexible material E may be glued or nailed, or both, to one of the cross-bars, as B, but must be free to be disconnected from the other, as C.

When the device is out of use the cross-bars B and C are folded within the frame A, the flexible part E being disconnected from the bar C by the latter being drawn out from its tapering socket or pocket formed in the flexible part. Thus conditioned, the flexible part is wound around the rigid parts, and the elastic G is applied to contract upon and bind the whole snugly.

When the device is required for use the elastic is removed, the flexible wing E unwound, and its free end matched upon the cross-bar C, both cross-bars being held crosswise to the frame A. Then the elastic G is extended a little and applied upon the short arm of a cross-bar. Its tension then pulls the short arm of B and C together, and thereby, acting on the pivots *d* as fulcra, strains the long arm of B and C apart and stretches the fabric E to its fullest extent. Next the window-sash M (shown in dotted lines in Fig. 2) is raised and the device properly introduced, with the flexible part E extending outward from that side of the window-opening which is for the time being forward. In other words, the deflector is fixed in the front edge of the window-opening, projecting its flexible part E and the long arms of the cross-bars B and C outward, and holding its inner edge, with the stretched elastic G, presented inward toward the passengers. On lowering the sash its base is received in the offset *a*, near the upper end of the frame A.

The weight of the sash M is transmitted downward through the frame A to the lower pin or pivot, *d*, and through it to the lower cross-bar, C. The latter rests firmly on the window-frame below, being in contact therewith at two points, $W'$ and $W^2$, the former being near the inner edge and the latter at or near the outer edge of the base of the window. The end of the frame A may be extended out so as to bear a little, but it should not take any large portion, of the weight. Thus conditioned, the deflector entire

is strongly and stiffly held in place by the weight of the sash, and the flexible fabric E is held gently extended by the tension of the elastic G.

When the car is standing at a station or moving gently with a favoring wind the material E will be nearly or quite plane; but when the car moves rapidly, so that the air in front is struck by the flexible stuff E with great force, the elastic G will extend a little, allowing the upper cross-bar, B, to turn sufficiently on its pivot *d* to allow the outer edge to greatly curve backward, thus reducing the effect and reducing the force, but always maintaining an appreciable extension of the flexible material outward, either plane or deflected rearward, so as to cause the window to exhaust air gently from the interior of the car, and never to allow a motion of air and cinders from the outside inward through the window. As the motion of the car lessens the force of the elastic G again pulls the fabric E in a plane condition at right angles, or nearly right angles, to the motion of the car, and whenever it is desired to repack the device the reverse of the extending operation again reduces it to the condition shown in Fig. 4.

The offset *a* may be inclined to match to the ordinary bevel of the base of the window-sash M; but my experiments indicate that this is not an important point. The offset itself is useful in forming a firm support for the top of the device and a stop to aid in setting it properly. The bevel frequently or generally found at the bottom of the sash interferes with obtaining a reliable rest for the sash on the extreme top of the frame A; but my frame, as made, may be thrust farther inward and the sash received on the extreme top in any case when such arrangement shall be preferred.

Modifications may be made without sacrificing the principle or failing to realize the whole or a portion of the advantages of the invention. The frame A and the arms B C may be other material, as thin brass. The flexible part E may be rubber or a thin fabric treated with rubber or oil. The parts may be decorated. The frame A may be in a single bar, with the cross-bars lying alongside when packed. The flexible part E may be removed altogether from the parts B C and stowed separately.

The device in any of these forms or conditions is capable of being easily and rapidly applied and removed. The elastic may be easily replaced if lost or injured. The whole is easily made or repaired, and is adapted to be cheaply supplied, either by the water-boys on the trains or by the passengers equipping themselves before setting out on their several journeys. No special adaptation of the device to the window or of the window to the device is required.

Parts of the invention may be used without the whole.

I claim as my invention—

1. The cinder-deflector described, having a suitable rigid framing, in combination with a flexible portion, E, extended with a yielding force, and adapted to serve in the front of a car-window to deflect the air and cinders, as herein specified.

2. The cross-bars B C, pivots *d d*, and frame A, in combination with each other and with the flexible material E, arranged to serve substantially as herein specified.

3. In a cinder-deflector for windows, the upright or frame A, having the offset *a* to receive the sash M, the material E, extending outward to act on the air, and the lower cross-bar, C, receiving the weight of the sash and holding it supported at the two widely-separated points, $W'$ and $W^2$, all substantially as herein specified.

In testimony whereof I have hereunto set my hand, at New York city, New York, this 9th day of May, 1882, in the presence of two subscribing witnesses.

WILLIAM P. TODD.

Witnesses:
WM. C. DEY,
A. H. GEUTNER.