

P. J. SCHRADER.
AIR DEFLECTOR FOR VEHICLES.
APPLICATION FILED NOV. 1, 1909.

953,350.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

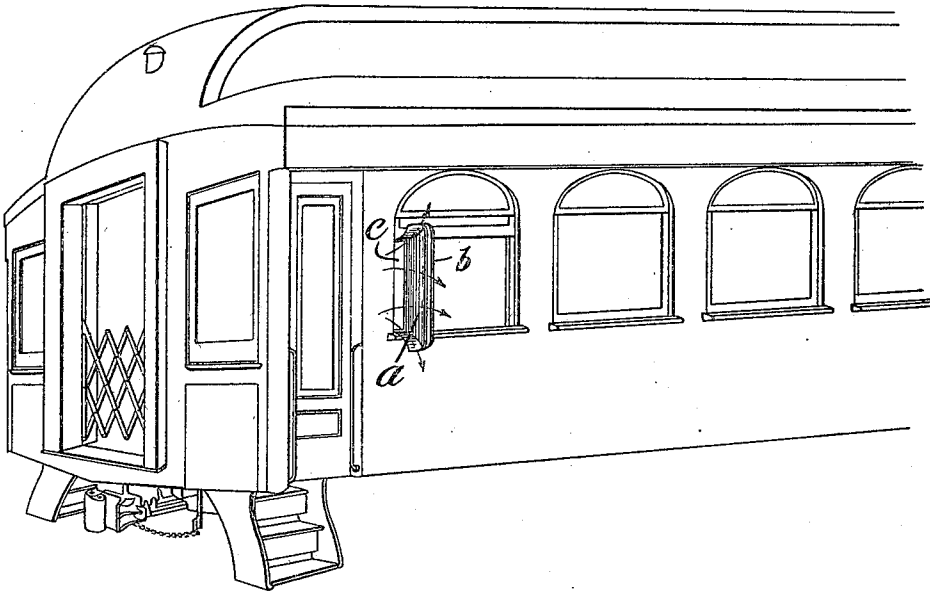
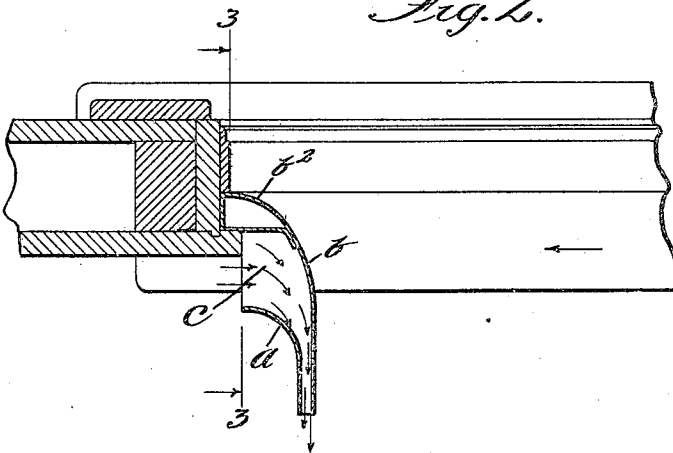


Fig. 2.



Witnesses:
Edw. D. Perry
Albert J. Lander

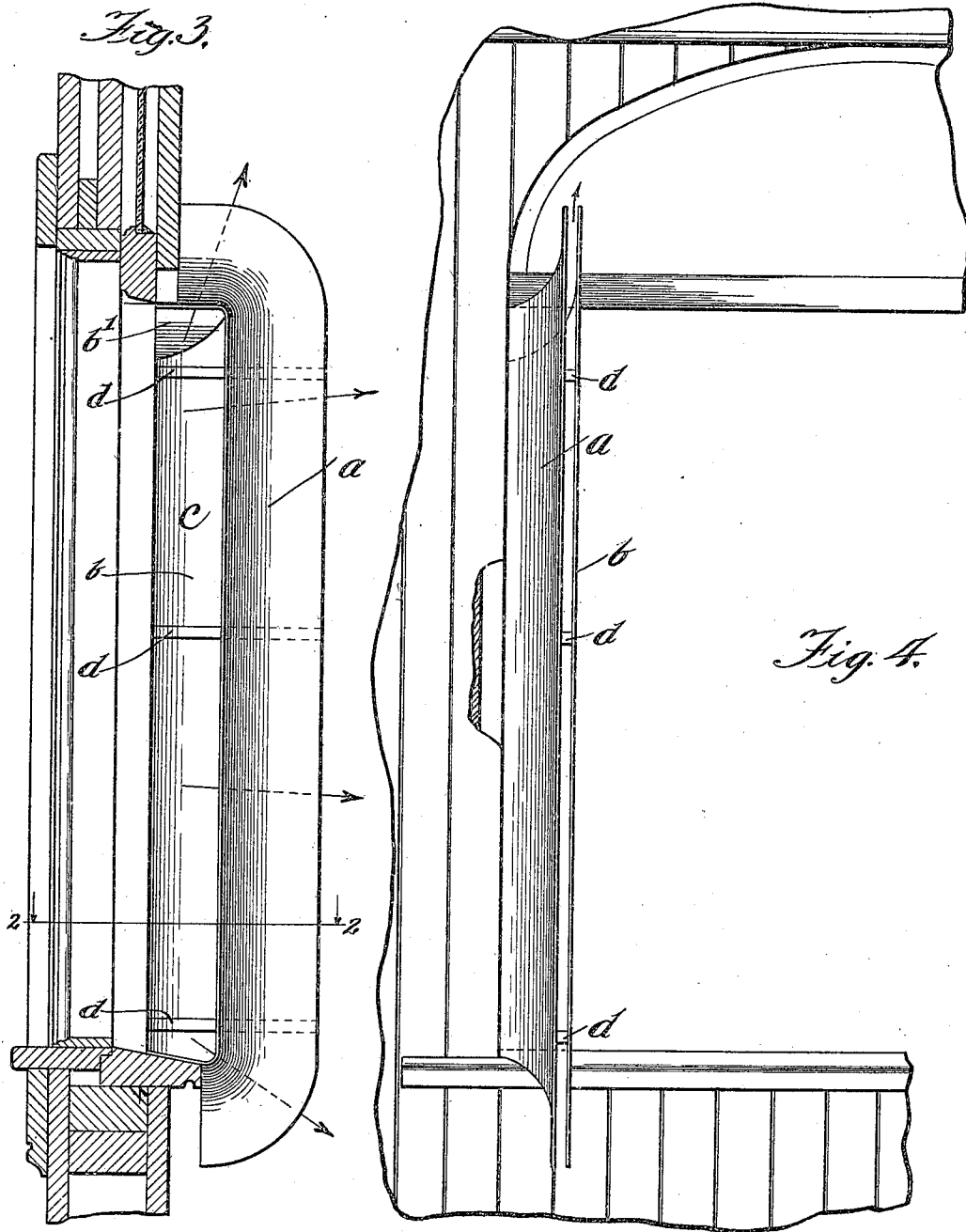
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By *Cheever & Cox*
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UNITED STATES PATENT OFFICE.

PAUL J. SCHRADER, OF CHICAGO, ILLINOIS.

AIR-DEFLECTOR FOR VEHICLES.

953,350.

Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed November 1, 1909. Serial No. 525,767.

To all whom it may concern:

Be it known that I, PAUL J. SCHRADER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Air-Deflectors for Vehicles, of which the following is a specification.

My invention relates to air deflectors for vehicles and the object of the invention is to provide a deflector which will create a current or blast of air flowing in such directions as to force dust, smoke or cinders away from the vehicle to thereby protect the passengers.

My invention is applicable to all rapidly moving vehicles such as railway cars and automobiles, and for the purpose of explaining the invention and its mode of operation I have elected to show it in conjunction with a railway car.

In the accompanying drawings: Figure 1 is a perspective view of the end of a railway car provided with one of my deflectors. Fig. 2 is a plan section of a deflector and adjacent portions of a car, the plane of section being indicated by the line 2—2, Fig. 3. Fig. 3 is a sectional elevation taken on the line 3—3, Fig. 2. Fig. 4 shows a portion of a car and car window with my deflector in position.

Similar letters refer to similar parts throughout the several views.

Primarily the deflector consists of two walls *a* and *b* so shaped and arranged with reference to each other that they form a gradually contracting passage *c* between them, the forward opening of the passage lying toward the forward end of the vehicle and the rear end of the passage opening substantially outwardly away from the side of the vehicle. This is the formation throughout the greater portion of the height of the deflector but it is desirable also that at the upper and lower ends the walls sweep upwardly and downwardly respectively so that the outer, or rear edges of the walls, will be longer than the inner edges thus providing protection over a greater area. It is also desirable that at the upper end the rear wall *b* have an upwardly curved deflecting surface *b'*. The two parts *a* and *b* are held together by braces *d*, *d'* of any suitable pattern.

The method of fastening the deflector to the vehicle will vary according to the form of the vehicle with which it is to be em-

ployed. In a deflector for car windows, as shown, it may be held in position by means of the box-like vertical extension *b*² formed upon the rear wall *b*, by bending it back upon itself in such manner that it may fit into the grooves of the window frame of the car and be held in position by lowering the window sash down upon it so that said extension will be held vertically between the window sill at the bottom and the sash at the top. This construction is particularly adapted to a deflector formed of sheet metal, as in the drawings, but wood or other material may be substituted, in which case the construction of the vertical extension may be modified, as desired.

In operation, when the vehicle is moving in the direction indicated by the large arrow in Fig. 2, air will be caught in the forward and larger end of the inclosed passage *c* and will be deflected and forced outwardly by the converging walls. On account of the convergence of the walls the air will be forcibly ejected at the outer and upper edges of the deflector with the result that not only the suspended atoms caught within the passage will be outwardly deflected, but the air blast itself will act as a shield or deflector and will greatly extend the sphere of action of the apparatus. In other words, the apparatus will deflect particles which are out of reach of the walls themselves and yet will not interfere with the vision of the passengers.

The force of the blast will increase in proportion as the speed of the vehicle increases and will tend to overcome the suction or eddy-currents which pass around the edges of the ordinary flat window shields or deflector boards. The upward blast at the top of the deflector will have a similar effect in forcing the air and particles suspended therein upward out of the way. Ordinarily special downward deflection at the bottom of the device will not be necessary due to the action of gravity which will tend to remove suspended particles downward out of the way. As the forward wall *a* curves rearwardly and outwardly it also will create an outward and upward air current of greater or less intensity which will increase the efficiency of the device.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

In a deflector, the combination of two

curved walls diverging toward the forward
edges and converging toward the rear edges,
the rear edges sweeping upwardly and
downwardly at the upper and lower ends
5 respectively, and sweeping outwardly away
from the vehicle at the intermediate por-
tions whereby an air current is created which
flows upward at the top of the deflector,
downward at the bottom of the deflector

and outward at the intermediate portions of 10
the deflector.

In witness whereof, I have hereunto sub-
scribed my name in the presence of two wit-
nesses.

PAUL J. SCHRADER.

Witnesses:

HOWARD M. COX,
MARGARET D. ROBB.