(No Model.)

R. J. GILLHAM.

GUARD FOR RAILWAY CARS.

No. 345,045. Patented July 6, 1886.

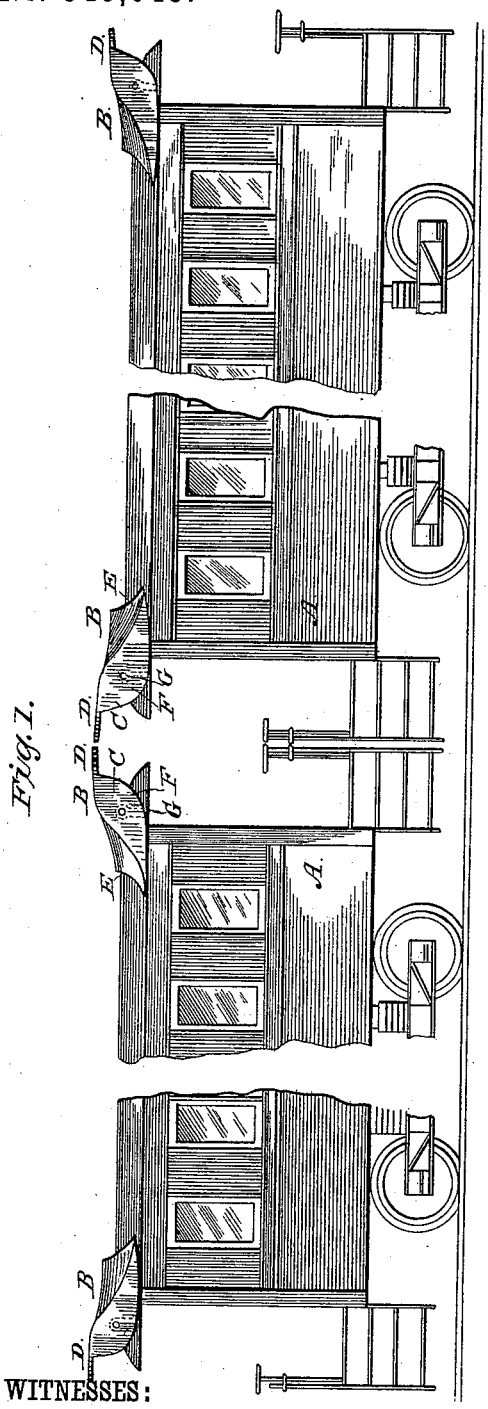

Fig. 1.

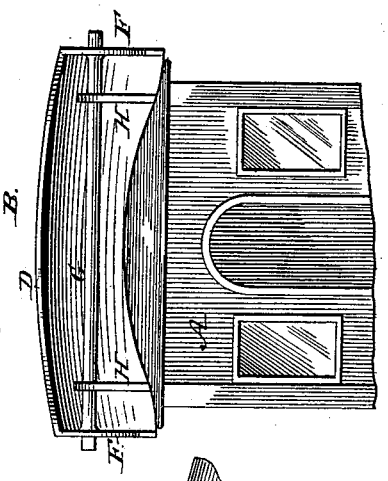

Fig. 3.

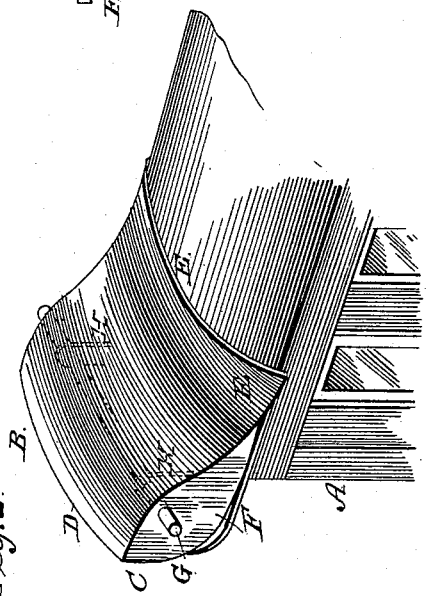

Fig. 2.

WITNESSES:

Fred J. Dieterich

Jno. A. Lemon

INVENTOR:

R. J. Gillham

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROBERT JACOB GILLHAM, OF ORLANDO, FLORIDA.

GUARD FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 345,045, dated July 6, 1886.

Application filed March 31, 1886. Serial No. 197,351. (No model.)

To all whom it may concern:

Be it known that I, ROBERT JACOB GILLHAM, of Orlando, in the county of Orange and State of Florida, have invented a new and useful Improvement in Automatic Guards for Railroad-Cars, of which the following is a specification.

My invention consists in an automatic guard for railroad-cars and street-cars run by steam, which is designed to prevent smoke, dust, cinders, &c., from passing down between the cars and entering through the doors of the same while they are in motion, the guards being also so constructed as to effectually shield and protect the steps and platforms of the cars from rain or snow, all as will be hereinafter fully described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a side view of two railroad-cars of ordinary construction provided with my improved automatic guards, the guards being shown in the position they occupy when the train is in motion. Fig. 2 is a perspective view of one of the guards in its operative position, and Fig. 3 is a front elevation of the same.

The same letters of reference indicate corresponding parts in all the figures.

Referring to the several parts by letter, A A represent two railroad-cars of ordinary construction, which are provided with my automatic guards, a guard being secured on each end of each car.

B B represent the guards, each guard being preferably formed of a single piece of light metal, though it is obvious that any other suitable material may be employed. Each guard is a little wider than the top of the car on which it is employed, the body portion C of the guard being formed with the upwardly-curved or flaring forward end, D, while the rear end of the guard-body is cut out at E, and curved to adapt it to fit closely the rounded top of the car and prevent the wind blowing against the lower end of the guard from raising the said end. The guard is also formed with the downwardly-projecting side flanges, F, and the guard is mounted in its operative position on the end of the car by a transverse rod, G, or two bolts which pass through the side flanges, F, or other bearings of the guard, and bearings H on the top of the car; or, if desired, the bearings H might be formed on the sides of the car immediately below the level of the top thereof and the side flanges of the guard extended down and pivoted thereto, as will be readily understood. The transverse rod G, which forms a pivotal bearing for the guard, extends through the side flanges (or two bearings, which may be fastened to guards) of the guard a little forward of the center of the guard, so that the inner ends of the guards—that is, the ends toward the center of the coach—will just overbalance the outer ends of the guards and rest upon the rounded top of the coach, which they exactly fit. The guard is curved in such a manner as to cause the rain to run off without dripping upon the steps or platforms of the car.

The operation of my improved guard is as follows: When the train is in motion, the air passing under the raised forward end of the guard on the forward end of each coach will raise the rear end of the pivoted guard, so as to hold the body of the guard nearly parallel with the top of the car, thus allowing the free passage of smoke, cinders, dust, &c., underneath the guard through the space between the body of the guard and the top of the car, and preventing the smoke, cinders, &c., from passing down between the cars and in at the front door of each car. The pressure of the air at the same time forces the inner end of the guard at the rear end of each car down tightly against the roof of the car, so as to prevent the passage of the air under it, thus causing the smoke, dust, cinders, &c., to pass up over the guard, and preventing the same from passing down between the cars and into the doors thereof. The downwardly-projecting side flanges of the guards are of sufficient size to effectually prevent the passage of smoke, dust, cinders, or rain under the sides of the guards down between the cars. These side flanges may, if desired, be dispensed with; but I consider it highly desirable to retain them, as they add greatly to the efficiency of the guard.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my automatic guard will be readily understood. It will be seen that the device is exceedingly simple in construction, and that it can be manufactured at a small cost, and is not liable to break or

get out of order, being devoid of all complicated mechanism, while at the same time it is very efficient in its operation. The guard not only prevents the smoke, cinders, dust, &c., from passing down between the cars and entering the same, but also protects the front of the cars from considerable draft caused by the air pouring down between the several coaches, thus saving fuel. It will be noticed that by the shape of that portion of the guards extended in rear of their pivots they form inclines on their inner faces, against which the wind entering the outer ends of the guards acts with a wedge-like force, lifting the rear end of the guard and permitting the air to escape rearwardly from said guard.

For convenience of reference the edge of the guard next the end of the car is termed its "outer" and the opposite edge its "inner" edge.

In operation on a train of cars the guard on the rear end of an intermediate car will give the current of air an upward tendency or direction, and such current in passing from the outer edge of the said guard will be affected immediately by the suction caused by the air entering the front guard on next rear car, thus preventing cinders and the like from passing down between the cars.

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

1. The herein-described guard pivotally supported and having its portion in rear of its pivot extended and adapted to overbalance the forward portion, said rear portion being shaped substantially as described, forming an incline between which and the top of the car the air will operate with a wedging action, whereby to lift said end in order that the air may escape rearwardly, substantially as set forth.

2. The combination of two adjacent cars and guards secured on and near the meeting ends of said cars, one of said guards opening toward the meeting ends of the car, whereby to receive the cinders and like, and the other being inclined upward from its inner to its outer edge, substantially as and for the purpose specified.

ROBERT JACOB GILLHAM.

Witnesses:
J. W. LORING,
GEO. R. NEWELL.