

(No Model.)

G. W. FRENCH.

PILOT AND GUARD FOR RAILWAY CARS.

No. 354,831.

Patented Dec. 21, 1886.

Fig. 1.

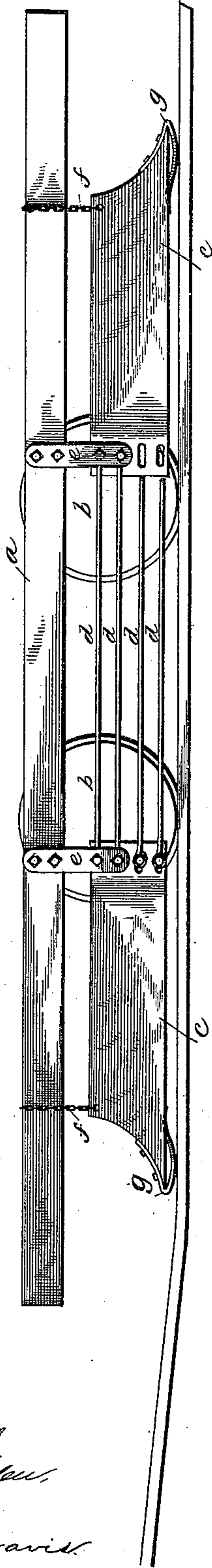


Fig. 3.

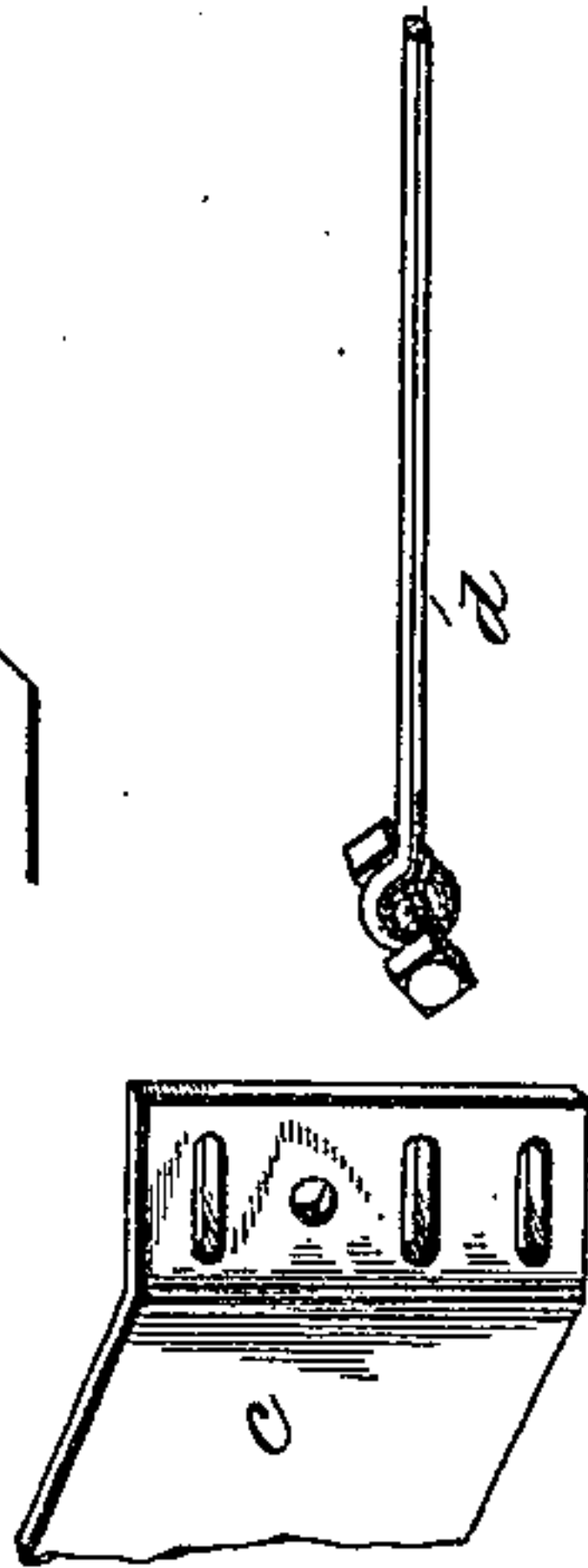
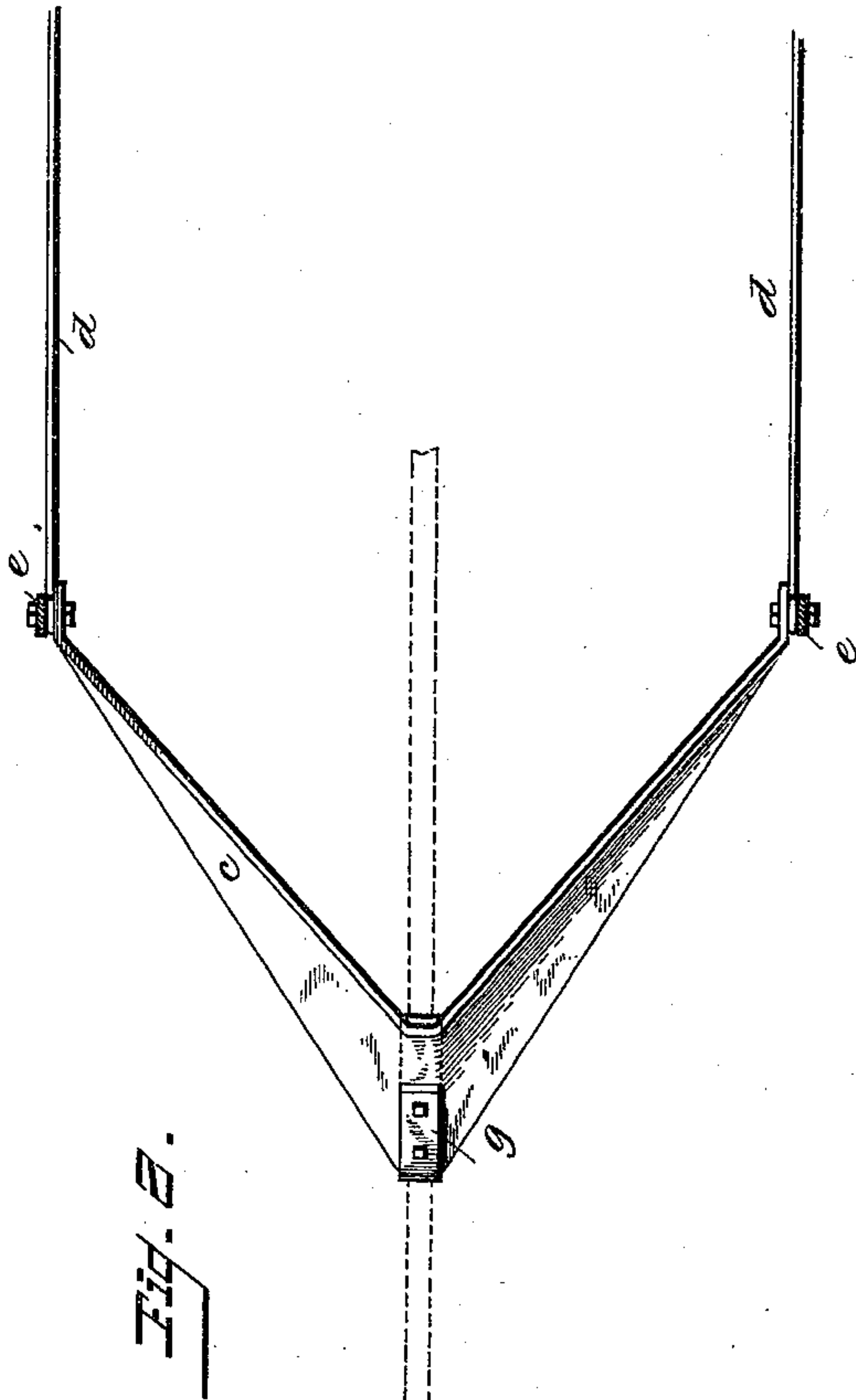


Fig. 4.



Fig. 2.



Witnesses

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PILOT AND GUARD FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 354,831, dated December 21, 1886.

Application filed August 20, 1886. Serial No. 211,384. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. FRENCH, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Pilots and Guards for Railway-Cars, of which the following is a full, clear, and exact description.

The object of this invention is to provide a guard at the ends and sides of cars, so as to keep the wheels and running-gear clear of obstructions; and my invention is specially designed for street-railway cars.

The invention consists in V-shaped pilots so hinged at the ends of the car as to permit freedom of motion vertically, so as to conform to grades and to meet obstructions, combined with side guards loosely jointed to the pilots, so as to permit perfect freedom of motion of all the parts of the guard, substantially as and for the purposes hereinafter particularly set forth and claimed.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation of my invention applied to a car-truck, the bed-timbers of the car only being shown. Fig. 2 is a top view of one of the pilots and parts of the side guards. Fig. 3 is a perspective view of part of the pilot, side guards, and connecting-bolts in detail; and Fig. 4 is a perspective view of the guide-shoe for the point of the pilot.

The letter *a* designates the bed-timbers of the car, of ordinary construction, and *b b* the wheels, my invention not relating to these. At the ends of the car the pilots *c* are arranged, and connected to these pilots, longitudinally of the car, are the side guards, *d*. The pilots *c* may be made of timber or metal, and in outline of V shape, with their active faces curved or concaved, if desired. They are suspended at their rear ends from the bed-timbers of the car by means of hinges *e*, whereby the said pilots are permitted to rise and fall at their leading ends, and the said pilots are supported from the bed-timbers at their leading ends by means of chains or other flexible connections, *f*. The points of the pilots are shod with spring-shoes *g*. (Shown in detail in Fig. 4.) This shoe is preferably made of steel, about three-eighths of an inch thick and three

inches wide, and bolted firmly to the pilot, and its lower end turned under the shoe, so as to give a sliding motion as the pilot passes up an incline; and in cable railways this shoe will move upon the "slot-rail" when ascending a grade, but will not touch the rail when moving on a level.

The side guards are composed, preferably, of metal bars or plates, the ends of which are connected to the wings of the pilot by bolts working in slots in such pilots, so that there may be entire freedom of motion of all the parts of the guard.

Now, with a construction such as described, in accordance with my invention, a car may be supplied with a self-adjusting guard extending entirely and continuously around the car in a very economical and endurable form.

What I claim is—

1. A pilot hinged at its rear end beneath the end of the car and loosely suspended at its leading end, and thereby adapted to yield and conform to the road-bed, combined with side guards loosely connected therewith, substantially as described.

2. A pilot hinged at its rear end to a car, and loosely suspended at its leading end, and provided with a shoe at its point, substantially as described.

3. A pilot hinged at its rear end to a car, and loosely suspended at its leading end, and provided with a spring-shoe shaped and arranged substantially as described.

4. The combination, with the hinged pilots at the ends of a car, of a series of side guards loosely jointed to said pilots, substantially as described.

5. Pilots hinged at their rear ends to the ends of a car and suspended loosely at their forward ends, combined with rods or bars connected by bolts and slots to the sides of the pilots along the side of the car, the whole forming a self-adjusting guard extending continuously and entirely around the car, substantially as described.

In testimony whereof I have hereunto set my hand this 16th day of August, A. D. 1886.

GEORGE W. FRENCH.

Witnesses:

JAMES G. YOUNG,

THOMAS TODHUNTER.