

R. STONE.

CAR FOR ONE-RAIL RAILROADS.

No. 170,692.

Patented Dec. 7, 1875.

FIG. 1.

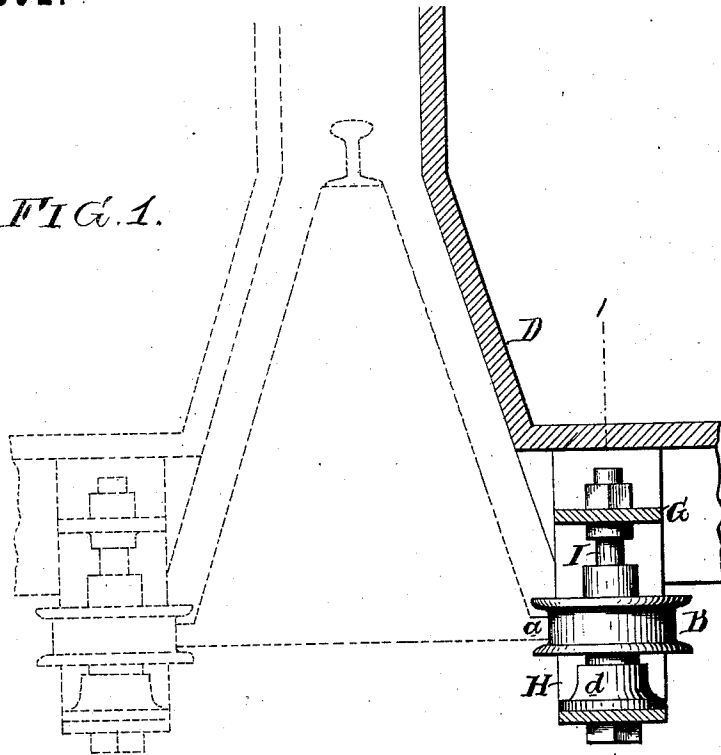


FIG. 2.

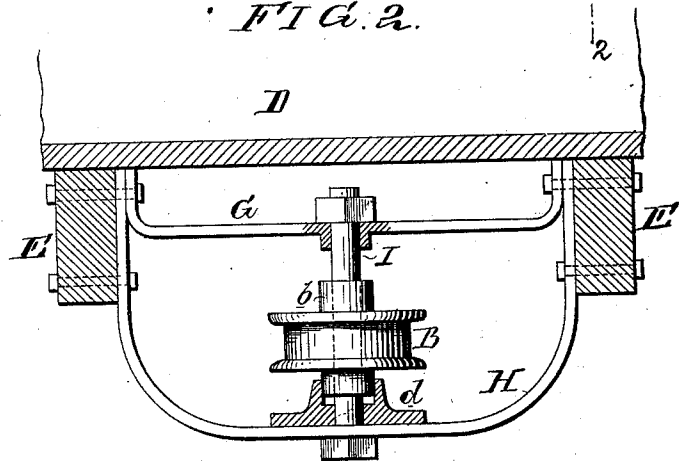
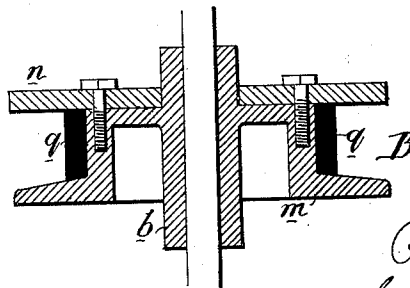


FIG. 3.



Witnesses,
John A. Deen
Harry Smith

Roy Stone
by his Attorneys
Howson and Son

UNITED STATES PATENT OFFICE.

ROY STONE, OF VANDALIA, NEW YORK.

IMPROVEMENT IN CARS FOR ONE-RAIL RAILROADS.

Specification forming part of Letters Patent No. **170,692**, dated December 7, 1875; application filed November 12, 1875.

To all whom it may concern:

Be it known that I, ROY STONE, of Vandalia, Cattaraugus county, New York, have invented an Improvement in Locomotives and Cars for One-Rail Railroads, of which the following is a specification:

My invention relates to an improvement in locomotives and cars adapted to one-rail railroads—as, for instance, the car for which Letters Patent were granted to me on the 20th day of April, 1875, numbered 162,323—the main object of my invention being to prevent the imparting of shocks to the car, and to insure comfort to the passengers.

In the accompanying drawing I have illustrated my invention as applied to the car with horizontal guide-wheels, as described in the aforesaid patent; but it should be understood in the outset that the main feature of my invention is applicable to all such cars for traversing a single rail as have guide-wheels for insuring lateral steadiness, whether such wheels are horizontal, vertical, or inclined.

Figure 1 of the drawing represents a vertical section of part of the said patented car with my improvements; Fig. 2, a section on the line 1 2; and Fig. 3, a detached sectional view of one of the guiding-pulleys.

The dotted lines in Fig. 1 represent an outline of the trapezoidal truss-frame or girder for which Letters Patent No. 162,504 were granted to me on the 27th day of April, 1875, the main rail for the driving-wheels of the locomotive and for the main supporting-wheel of the cars being secured to the top of the girder, each inclined side of which terminates below in a guide-rail, *a*, for the horizontal guiding-wheels B, the rim of which is clothed with rubber about an inch in thickness.

It has been proposed, in constructing cars for one-rail railroads, to make yielding bearings for the spindles of the guide-wheels. Such a provision, while it may tend in a slight degree to lessen such shocks as may occur when the car arrives at a curve of the track, or when the wheels pass an obstruction on the guide-rails, cannot produce a satisfactory result, for under such circumstances the inertia of the wheel and that of its bearings must be overcome before any yielding takes place, and con-

sequently there must be a shock of more or less severity, which tends to injure the car, and is a source of discomfort to the passengers. I entirely obviate this difficulty by clothing the rim of the pulley with rubber, which yields immediately to any irregularities or obstructions on the guide-rails, and to any lateral movement of the car when it traverses a curve of the track, and at once absorbs the shock which would otherwise be communicated to the car.

In the drawing, D represents part of the body of my said patented car; and E and E', two of the sills, to which I hang the guide-pulley B in the following manner: Two plates, G and H, are secured to these sills, and a stationary spindle, I, passes through and is secured to these plates. The wheel B is arranged to both revolve and slide freely on the said spindle, and the hub *b* of the wheel to turn and slide in a bearing, *d*, secured to the plate H. Each wheel B has an upper and lower flange, so that its vertical position is under the control of the guide-rail. Hence it is always so situated as to perform its duty properly, no matter what may be the vertical position or movement of the car, due to light or heavy loads, or to obstructions on the main rail.

I prefer, however, to make the distance between the flanges of the guide-wheels greater than the thickness of the guide-rails, so that slight vertical movements of the car will not raise or lower them.

It will be observed that the securing of the two plates G and H together by the stationary spindle I insures a substantial, and at the same time comparatively light, structure for carrying each guide-wheel, the plates themselves being, by preference, made of sheet or bar iron, and having such flanges for attachment to the car as the construction of the latter may suggest.

I prefer to construct the guide-wheel in the manner shown in Fig. 3, on reference to which it will be observed that the wheel is made of two parts—namely, the flanged body *m* and loose flange *n'*, the rubber ring *q* being forced onto the rim of the wheel before the loose flange is secured to the same.

I claim as my invention—

1. The combination, with a car adapted to one-rail railroads, of rubber-rimmed guide-wheels, substantially as herein set forth.

2. The combination of the plates G and H, secured to the frame of the car, with a stationary spindle carrying the guide-wheel, and serving to secure the two plates together, as specified.

3. The within-described guide-wheel, con-

sisting of the flanged body, removable flange, and intervening rubber ring *q*, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROY STONE.

Witnesses:

HARRY HOWSON, Jr.,
HARRY SMITH.