E. ANDREWS.

Elevated Railway and Car therefor.

No. 222,647. Patented Dec. 16, 1879.

FIG. 1.

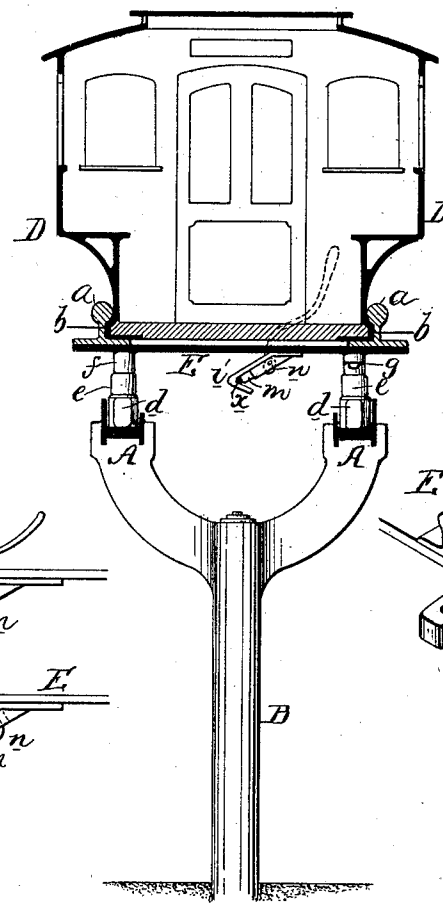


FIG. 3.

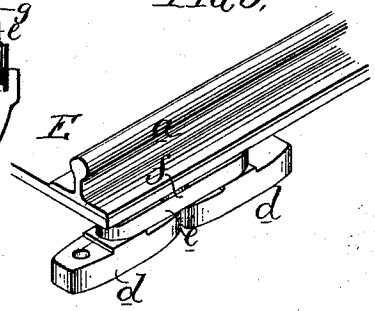


FIG. 4.

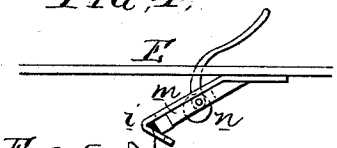


FIG. 5.

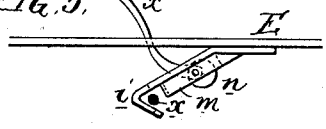
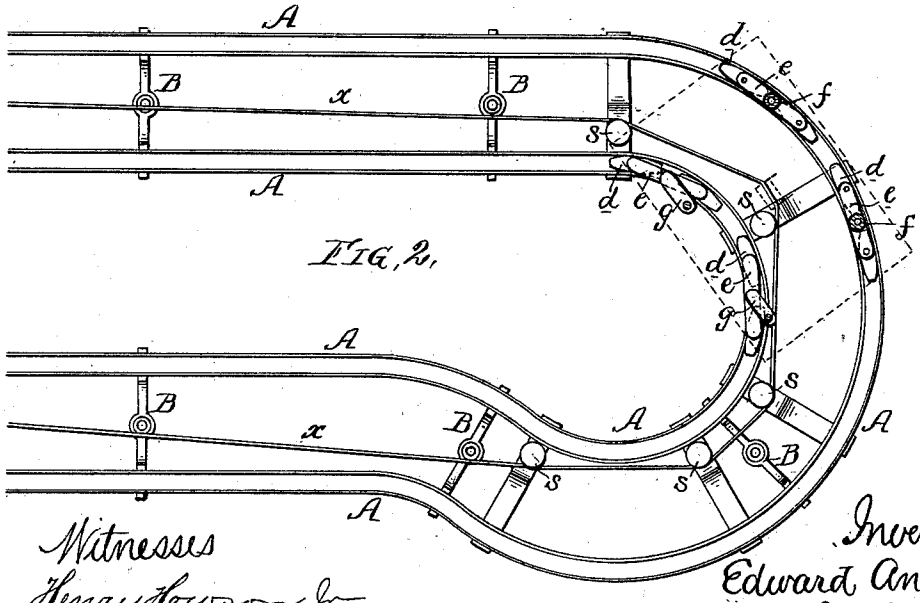


FIG. 2.



Witnesses
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Inventor
Edward Andrews
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N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD ANDREWS, OF POTTSVILLE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO SAMUEL E. GRISCOM, OF SAME PLACE.

IMPROVEMENT IN ELEVATED RAILWAYS AND CARS THEREFOR.

Specification forming part of Letters Patent No. **222,647**, dated December 16, 1879; application filed September 20, 1879.

To all whom it may concern:

Be it known that I, EDWARD ANDREWS, of Pottsville, Schuylkill county, Pennsylvania, have invented a new and useful Improvement in Elevated Railways and Cars therefor, of which the following is a specification.

The main object of my invention is to so construct an elevated railroad and cars adapted thereto that the greater portion of the noise made by ordinary elevated railroads will be overcome. This object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a transverse section of my improved elevated railroad and car; Fig. 2, a diagram showing a car in the act of turning a curve, the truck being in dotted lines, so as to expose the running-gear; Fig. 3, a perspective view of one corner of the truck; and Figs. 4 and 5, enlarged views of a griping device on the car.

A A are the opposite rails of the track, which are deeply grooved, or are, more properly speaking, made in the form of H-bars, one of the legs of the H on the outside of the rail being made somewhat higher than the other in order to prevent the lateral displacement of the cars.

The rails are in the present instance supported at suitable intervals by the forked upper ends of the posts B, of suitable length, said posts being firmly planted in the ground; but it should be understood that the structure for supporting the rails forms no particular part of my invention, and can be varied as circumstances may suggest.

D is the car-body, and E the truck, the two parts being made separable from each other in the following manner: To the top of the truck, near each edge of the same, are secured ribs *a a*, and to the latter are adapted projections *b b*, formed on the lower part of the car-body, the ribs *a* thus preventing lateral or vertical movement of the body independently of the truck, but permitting the ready removal of said body when the truck is to be used as a platform-car, or when a freight-car body is to be substituted for the passenger-car; or, if it is desirable, the ribs *a* may serve as rails, onto which an ordinary railway-car may be run.

It will be understood that suitable means are employed for preventing the longitudinal displacement of the car or car-body when the latter is adapted to ribs *a* of the truck.

To the grooved rails A A are adapted shoes *d d*, hung loosely to bars *e e*, the bars on one side of the car being pivoted to studs *f* on the car-body, and the bars on the other side of the car being hung to links *g*, pivoted to the body. (See Fig. 2.) By this means perfect freedom of movement of the shoes is insured, and the car can be drawn around curves of any desired radius.

In the present instance I have shown on each side of the car two bars, *e*, each carrying two shoes, *d;* but this arrangement may be varied as the length of the car or character of the track may suggest.

Various plans of driving the cars may be adopted. For instance, a stationary rope, rail, or rack arranged centrally between the rails A, and adapted to be clutched by suitable driving machinery on the car, might be used; but the plan which I prefer is that known as the "endless-cable towing system," in which a wire rope driven by suitable mechanism at opposite ends of the line, or at one end of the line, is combined with simple griping devices on the car, the car being griped to the rope when it is desired to move, and released therefrom when it becomes necessary to stop.

In the drawings, *x* represents the towing-rope, the clamp consisting of a hooked plate, *i*, to which the rope is adapted, and to which it is confined by a sliding block, *m*, operated by an eccentric, *n*, or by a screw or similar device. Only one car or any desired number of cars of the train may be provided with clutching devices.

The clamping device being in the center of the truck, it becomes necessary to arrange the horizontal rollers *s*, which guide the rope *x* in turning a curve, away from the center of the track, so that in passing the rollers the clamping device will not strike the latter, but will lift the rope out of the groove before reaching a roller, and will deposit it in said groove after passing the roller, as shown in Fig. 2.

The rails A A should always contain such a supply of lubricating material that the shoes

will slide in the same with as little friction as possible, the shoes themselves being preferably made of anti-friction metal, and, if desired, being made in the form of reservoirs of lubricating material, so as to provide for the automatic distribution of the lubricant as the car moves along the track.

I claim as my invention—

1. The combination of the grooved tracks A with a car having shoes *d* hung to pivoted bars *e*, as set forth.

2. The combination of the grooved tracks A with a car having shoes *d* hung to bars *e*, carried by links *g* on the car, as set forth.

3. The combination of the truck E, having pivoted shoes *d* and ribs *a*, with the car-body D, having projections *b*, adapted to the ribs *a*, as set forth.

4. The truck E, having shoes *d* and ribs *a*, the former being adapted to the grooved rails A, and the ribs *a* adapted to serve as rails for the wheels of an ordinary car, as specified.

5. The combination of the car having a central clutching device, the rope *x*, and the guide-pulleys *s* at the curve, said guide-pulleys being arranged away from the center of the track, so as not to interfere with the passage of the clutch, as set forth.

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

EDWARD ANDREWS.

Witnesses:

ALEXANDER PATTERSON,

HARRY SMITH.