

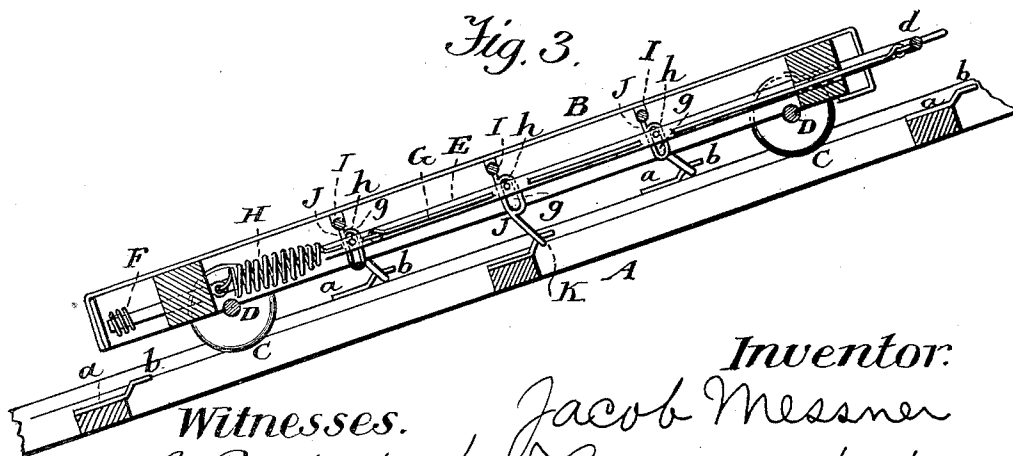
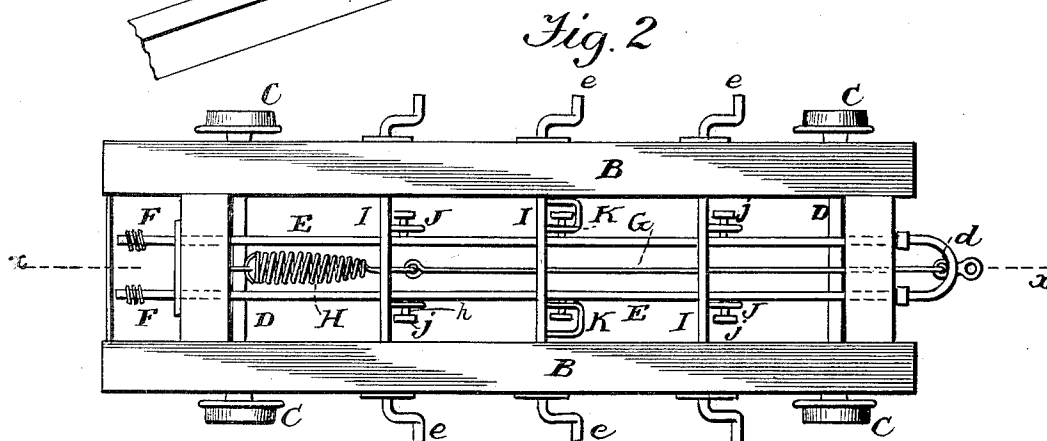
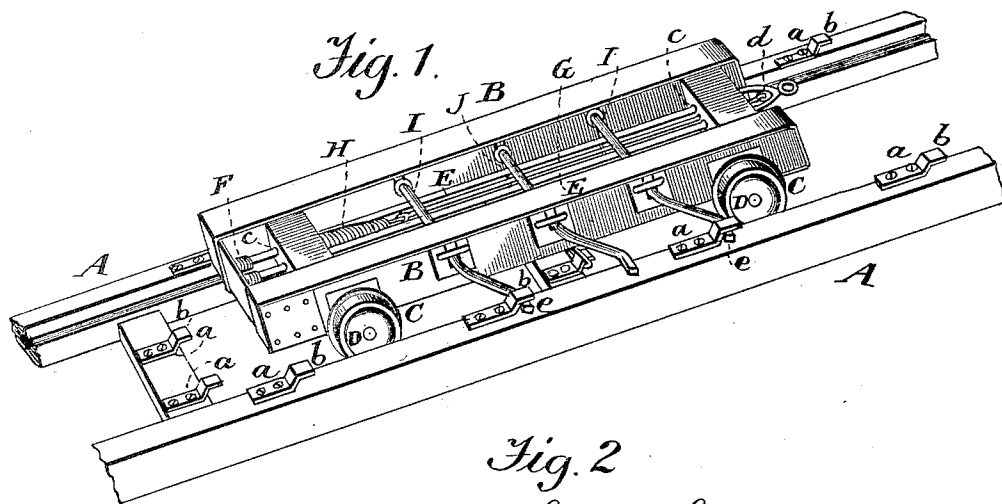
(No Model.)

J. MESSNER.

CAR FOR USE UPON INCLINED RAILWAYS.

No. 467,945.

Patented Feb. 2, 1892.



Witnesses.
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UNITED STATES PATENT OFFICE.

JACOB MESSNER, OF CALUMET, MICHIGAN.

CAR FOR USE UPON INCLINED RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 467,945, dated February 2, 1892.

Application filed August 25, 1891. Serial No. 403,683. (No model.)

To all whom it may concern:

Be it known that I, JACOB MESSNER, a citizen of the United States, residing at Calumet, in the county of Houghton and State of Michigan, have invented certain new and useful Improvements in Cars for Use upon Inclined Railways; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in railways, and is designed more especially for inclined ways, as upon mountain sides or other places where there is a steep incline; and it has for its objects, primarily, to provide simple and cheap yet durable and efficient means for preventing accident by the descent of the car or train in case the coupling or any other part of the connecting mechanism should break.

It has for a further object to so connect the safety devices with the draft appliances that they shall be dependent one upon the other, so that in case the draft appliances are broken the safety devices will be sure to be set into action. I provide spring-held draft-rods, which actuate crank-rods projecting through the sides of the truck and arranged to engage stops or catches upon the rails. These parts are so arranged and connected that when the draft-rods are drawn out, as when the car is under motion, the crank-rods will be turned up, so that they will not engage the stops or catches. Safety devices may also be provided to engage stops upon the cross-ties. Both of these may be employed together or either form may be used alone, as may be deemed best.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of a section of track with a truck thereon, the same em-

bodifying my invention. Fig. 2 is a top plan of the truck. Fig. 3 is a vertical longitudinal section through the same on the line xx of Fig. 2.

Like letters of reference refer to like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the tracks, which are of the L form in cross-section, such as are usually employed upon inclined ways, the wheels of the trucks being designed to travel upon the inner lower portions thereof, as shown. Upon the upper portions of the rails there are secured at any desired intervals the stops or catches a , which are of the form shown best in Figs. 1 and 3, with the raised portion b uppermost, so that the crank-rods hereinafter described will engage therewith in case the truck should start to descend. If desired, there may be similar stops or catches upon the cross-ties, as seen in Figs. 1 and 3. Otherwise the tracks and road-bed may be of any of the well-known or preferred forms of construction.

B is the truck, the body of which may be of any suitable construction and supported upon the wheels C, carried by the axles D in the usual way.

Extending centrally and longitudinally of the body of the truck and near the bottom thereof are the draft-rods E, which are arranged to slide freely through suitable openings c , made in the end cross-timbers of the truck body or frame, the forward ends of these draft-rods being extended beyond the front cross-bar and joined or connected together in any suitable manner, as by being inclined toward each other, and there held by any suitable means, or a suitable substantially-V-shaped coupling may be employed to join the said ends. The rear ends of the draft-rods extend through the rear cross-bar and are provided with coiled or other form of spring F, held thereon against displacement in any suitable manner. The draft is to be applied to the forward ends of the rods in any suitable manner.

G is a rod extending longitudinally of the truck between the draft-rods and working loosely through openings in the end cross-bar at the front of the truck, its forward end being connected to the draft-rods in any suit-

able manner, as by engagement with an eye or hook *d* thereon, and its rear end has connected thereto in any suitable manner one end of a strong coiled spring *H*, the other end of which is attached to the rear end cross-bar of the truck, as shown.

I are crank rods or shafts suitably journaled in suitable bearings on the side timbers of the truck, as shown, and their outer ends, which are extended through the said longitudinal timbers, are arranged so that they normally stand at an angle of about forty-five degrees to the perpendicular, their extreme ends being arranged horizontally and preferably slightly beveled or flattened, as seen at *e*. These crank-rods normally stand so that the said horizontal ends will engage the stops or catches *a* on the rails, the said rods hanging in this position by their own weight. These rods are actuated by the draft-rods, and the preferable means of connection therebetween is that shown in the drawings, in which the crank-rods are shown as provided between the rails with the arms *J*, formed with loops or elongated slots *g*, the said arms normally extending substantially vertical. The draft-rods are provided with lugs or pins *h*, extending horizontally therefrom and preferably provided with heads or analogous provisions *j* to prevent displacement thereof from the slots or loops of the arms *J*, in which they are designed to work.

The operation is simple and will be readily understood from the foregoing description when taken in connection with the annexed drawings, and a further detailed description thereof is not deemed necessary to state further than to say that normally when the train is in motion the draft upon the draft-rods pulls the pins or lugs *h* forward in the loops or slots of the vertical arms *J*, and thus rocks the crank-rods, so that their horizontal free ends are raised above the stops or catches on the rails, so that they do not contact therewith. The spring *H* is distended by the application of the draft. In case the draft appliances break the spring *H* returns the parts

to their normal position, so that the free horizontal ends of the crank-rods drop down where they will engage with the stops or catches as soon as the truck begins to descend, and thus they will stop the descent of the car.

When it is desired to employ safety devices which engage the stops on the cross-ties, I affix to one or more of the crank-rods loops *K*, as shown, which are moved with the crank-rods, and when the car begins to descend they swing down and engage the stops or catches upon the cross-ties, as will be readily understood.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as new is—

1. A railway-truck provided with spring-actuated draft appliances, and crank-rods arranged transversely of the truck and connected with the draft appliances, said connection embracing arms with elongated loops, as set forth.

2. A railway-truck provided with longitudinally-movable draft appliances, a spring acting in opposition thereto, and transverse crank-rods provided with arms having elongated loops and having a limited loose connection with the draft appliances, as set forth.

3. The combination, with the truck and the draft appliances, of the transverse crank-rods, the arms thereon provided with elongated loops, and the pins on the draft appliances working in the said loops, as set forth.

4. A railway-truck provided with longitudinally-movable draft appliances, a spring acting in opposition thereto, transverse crank-rods, arms carried thereby and having loops, and the lateral pins on the draft-rods working in the said loops, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB MESSNER.

Witnesses:

FRED MACKENZIE,
JINNIE CHAPORT.