2 Sheets—Sheet 1.

I. LITTLE.

Safety Car.

No. 4,381. Patented Feb. 10, 1846.

Fig. 2.

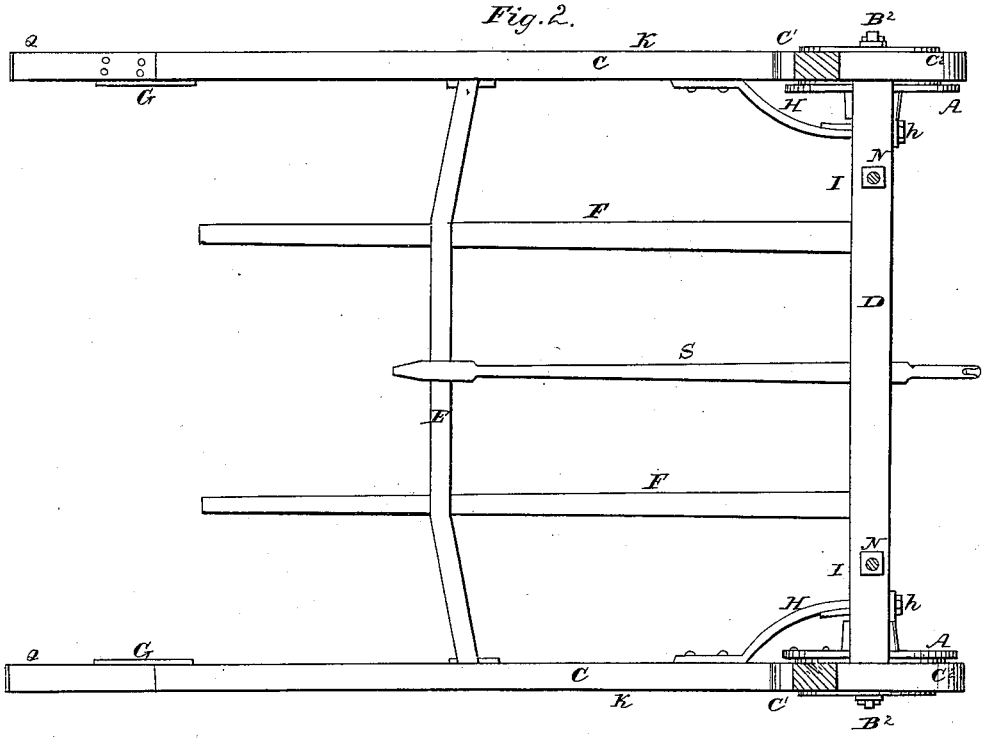
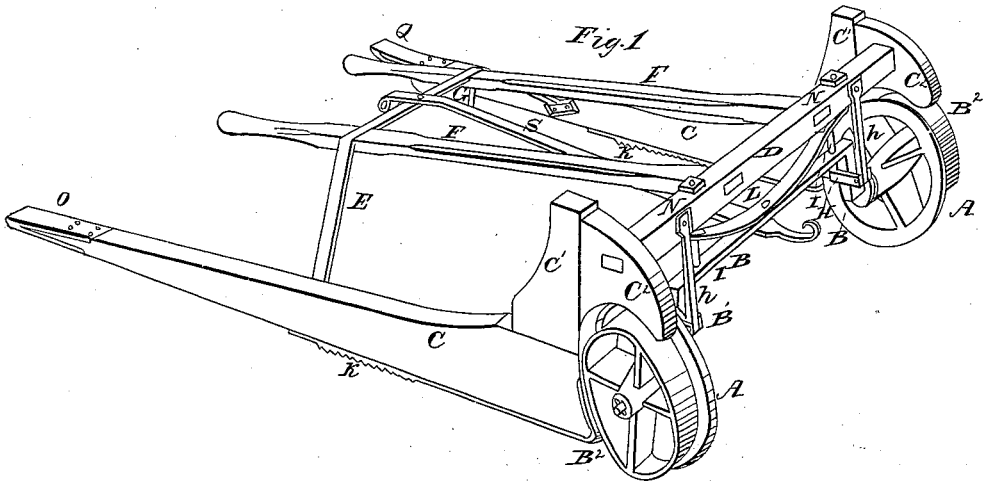


Fig. 1



2 Sheets—Sheet 2.

I. LITTLE.

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Fig: 3.

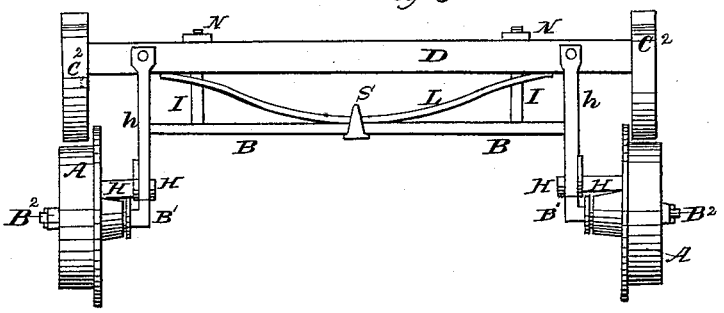
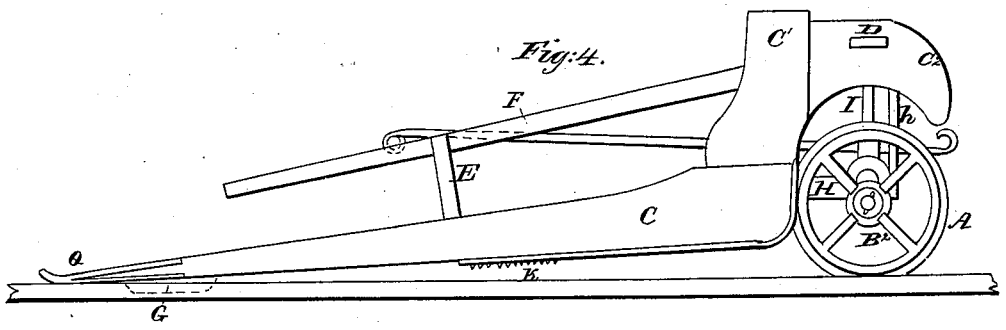


Fig: 4.



UNITED STATES PATENT OFFICE.

JOHN TITTLE, OF JOHNSTOWN, PENNSYLVANIA.

SAFETY-CAR FOR INCLINED PLANES.

Specification of Letters Patent No. 4,381, dated February 10, 1846.

To all whom it may concern:

Be it known that I, JOHN TITTLE, of the borough of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and improved mode of constructing safety-cars to run on inclined planes of railroads to prevent injury to persons or property when cars break loose from the revolving ropes in ascending or descending said planes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the safety car. Fig. 2 is a top view or plan. Fig. 3 is a front elevation. Fig. 4 is a side elevation.

In constructing this improved safety car I prepare two cast iron flanged wheels (lettered A in the annexed drawings) to run on the rails of the track, having long hubs to make the wheels run more steadily, hold oil better and last longer. These wheels are connected together by an axle B bent near each end nearly in the form of the letter Z as shown at B′, B² Fig. 3, the horizontal portion B sustaining the spring and car body, the vertical portions B′, B′ serving as slides against which a brace slides which is fastened to the car body, as the car body rises and falls, and the horizontal ends B² B² of the axle serving as spindles upon which the wheels revolve.

The car-body is composed of two side timbers C resting or sliding on the rails of the track and secured to the ends of a horizontal transverse timber D which connects their front ends together, said timber D resting upon the curved ends of a semi-elliptical spring L secured to the upper side of the horizontal part of the axle B by which the upper and front ends of the said side timbers are suspended above the wheels A until pressed down upon them by the weight of the run-a-way car in descending upon said timbers. The tail parts of the side timbers C are connected together by a transverse bar of iron E bent over and fastened to two handles F which are inserted into and extend back from the aforesaid transverse connecting bar D. The said side timbers C are each formed of three pieces of wood C, C′ C² mortised and tennoned together, so as to form a concave friction block C² the segment of a circle over the wheels and also a stop block C′ to stop the descent of the cars which may break loose from the stationary engine. The tail portions of the side timbers C are made of a triangular or wedge form and extend back over the track about seven feet having their points shod with metallic shoes Q to slide on the rails and turned up at the ends to pass over obstructions on the rails. They are kept from leaving the rails by vertical plates G fastened to their inner sides and extended down over the inner sides of the rails about two inches.

An iron brace H is bolted or otherwise secured to each side timber C and passed around the upright part of the axle B, (so as to slide thereon as the car body rises and falls) having a vertical stanchion *h* extending from the end of the brace H to the cross bar D to which it is fastened.

An iron sole K plated at one end with steel and roughened or filled with small pins or points is bolted to the under side of each side timber and extends about half its length as seen in Figs. 1 and 4, said points being designed to take hold of the rails, (when the sides of the safety car are pressed down by the weight of the descending train) and gradually arrest the motion of the train.

Two upright iron studs I are fastened to the upper part of the axle B. They pass through round openings in the bar D and form a slide for the same. They also guide the bar D in its ascent and descent, and prevent it from rising too high by having nuts N screwed on their upper ends against which the bar D strikes.

A central bar of iron S is fastened to the middle of the axle B and brace E having a hook in front and a clamp behind to which the rope is made fast that attaches the car to the train. The attaching of the car to the train and to the revolving rope is effected by means of a hempen rope or stop, or in any convenient way.

The whole front of the said safety car (except the wheels and axle) rests upon the steel bearing spring L aforesaid, placed between the axle B and the cross bar D being fastened at the middle to the axle B by a clip bolt or any suitable means, and attached to the bar D by causing the before described studs I to pass through oblong mortises in the spring which allows the spring to keep its place and to slide against

the under side of the bar D in expanding and contracting as the body or bar D rises and falls.

The arms F are inserted into the timber or bar D at an angle of about 15 or 20 degrees with the track. The parts of the arms between the bar D and brace E serve to strengthen the frame, and the parts which extend back beyond the brace E serve for handles in removing the car from one track to another.

The mode of operation is this: When a railroad car, or train, breaks loose from another car or train, or from the stationary engine, it immediately runs upon the safety car and is stopped by the block C′. The weight of the car presses down the spring L until the concave friction block C^2 or segment portions of the sides of the car body, touch the peripheries of the wheels A. The wheels A then become locked. At the same time the roughened plates K are pressed down and made to take hold of the rails of the track, when the whole train is gradually stopped and all danger is prevented.

It is to be understood that the safety car follows the train in ascending, but goes before it descending a plane.

What I claim as my invention and desire to secure by Letters Patent is—

The construction of the body of the safety car as aforesaid in combination with the supporting wheels, axle, and spring arranged and operating in the manner and for the purpose set forth.

JOHN TITTLE.

Witnesses:
J. MARBOURG,
M. CANAN.