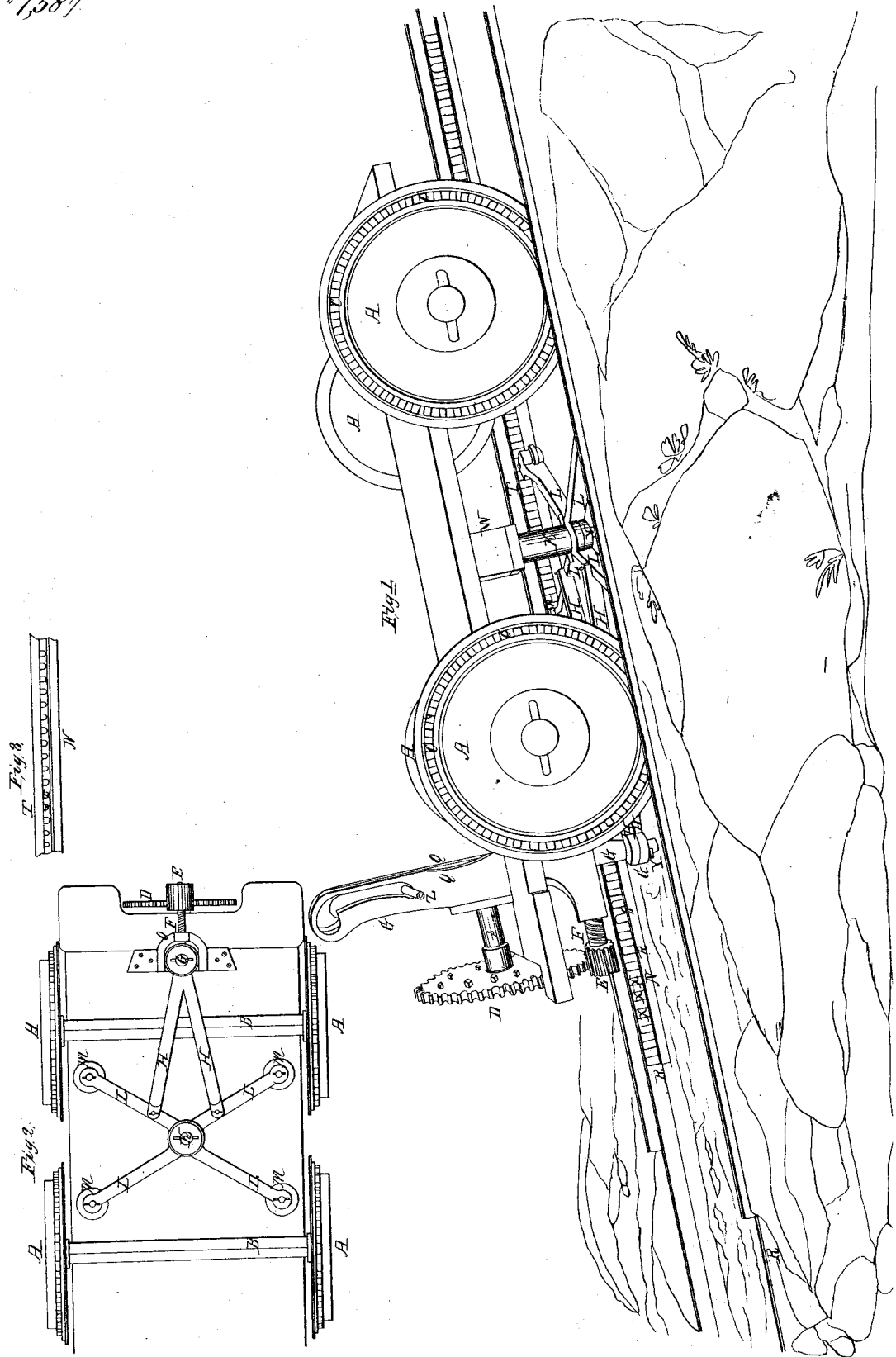


M. W. King.

Inclined Railroad.

Patented May 8, 1840.

N^o 1,587



UNITED STATES PATENT OFFICE.

MATTHEW W. KING, OF NEW YORK, N. Y.

RAILROAD-CAR BRAKE TO PREVENT ACCIDENTS IN DESCENDING INCLINE PLANES ON RAILROADS.

Specification of Letters Patent No. 1,587, dated May 8, 1840.

To all whom it may concern:

Be it known that I, MATTHEW W. KING, of the city, county, and State of New York, have invented a new and useful improvement in the construction of cars for ascending and descending inclined planes of steep grade without the use of stationary engines, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the car and part of the track. Fig. 2 is a view of the bottom of the car showing a plan of the combined brake. Fig. 3 is a section of one of the cogg rails.

Similar letters refer to similar parts in the figures.

The car wheels A and tracks T are made in the usual manner except in the particulars hereinafter stated. On each wheel is formed an additional tread P and a circular row of cogs C which work into a rack N fixed to the inside of each rail R, by which the wheels are prevented from slipping around on the rails. The cogs of the racks stand perpendicular to the track and are so formed that no obstructions can lodge between the cogs. A tongue or rib S projects inward toward the center of the track at right angles to the rail for the wheels of a combined retentive brake, hereafter described, to turn under, the upper side of which is beveled to prevent the lodgment of obstructions thereon between the cogs.

The combined brake, which is attached to the car, is made in the following manner. It consists of two horizontal levers L crossed at the middle, with a vertical bolt K passing through them at their intersection, on which they turn, being prevented from falling off from said bolt by a head, nut, or pin V or some suitable fastening, said bolt being fastened to the under side of the car by being inserted into a block W secured to the car and fastened therein by a pin. At each extremity of the levers is an anti-friction roller M placed in a horizontal position

and turning against the side of the rail R under the rib S, the upper flat side of said roller striking against the under side of the rib whenever the car has a tendency to rise from the track. The rollers turn on pins inserted vertically through the ends of the levers and through the centers of the rollers. To these crossed levers are attached two rods H which gradually approach each other and are connected at the extremities by a pendulous lever G whose lower end is made round and passed through a round aperture in the connected ends of the rods H and secured by a pin Y passed through the lever under the rods, the upper end of which pendulous lever is hung to a pin Z inserted through two upright standards Q on the top of the car. By moving the pendulous lever G toward the center of the crossed levers the extremities of said levers are moved toward the rails, which causes the rollers to press harder against the sides thereof and which is necessary in descending inclined planes to arrest the too rapid movement of the car, and by reversing this movement the wheels will be removed from the rails. The pendulous lever G is moved to and fro by a male screw F attached to it near its lower end and passing through a female screw in a metallic stationary bail O fastened permanently to the under side of the car, on the other end of which screw there is fixed a long horizontal pinion E into which works a large vertical cog wheel D turned by hand, pins being inserted into the side thereof to lay hold of. This cog wheel D turns on a horizontal spindle S inserted in the before described standards Q.

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

The compound lever brake combined and arranged as herein described.

MATTHEW W. KING.

Witnesses:

C. ROBBINS,
GEORGE RICHARD.