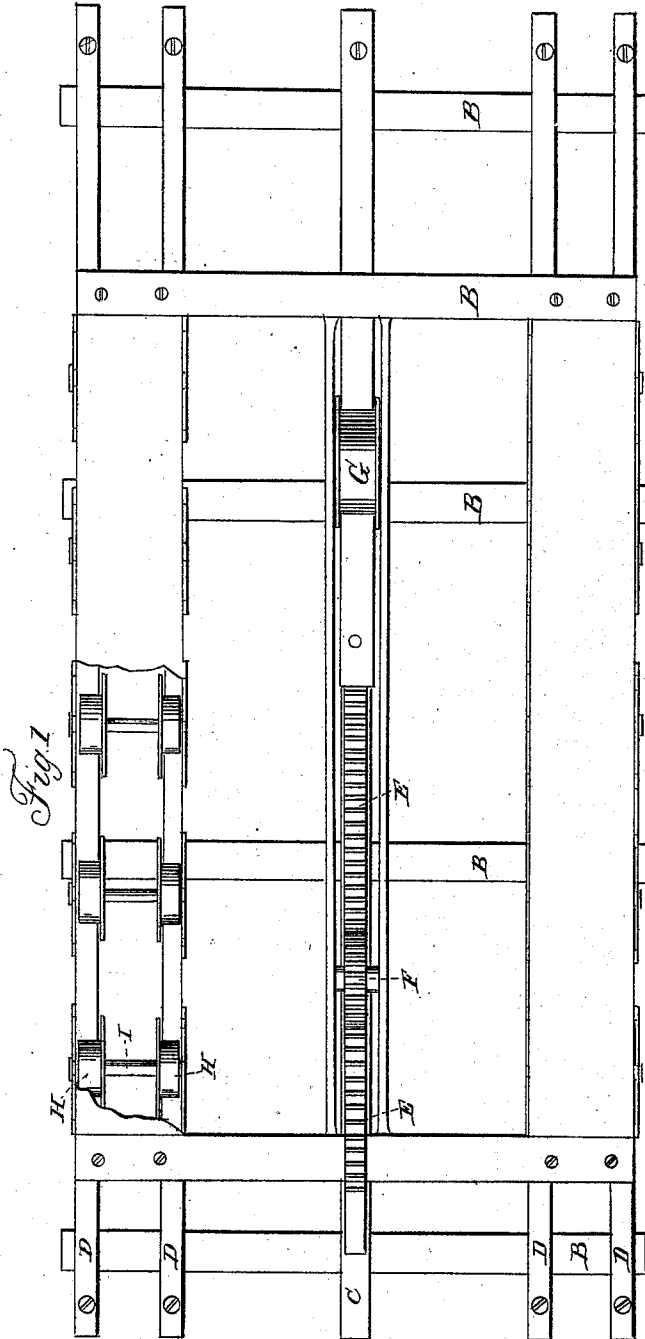


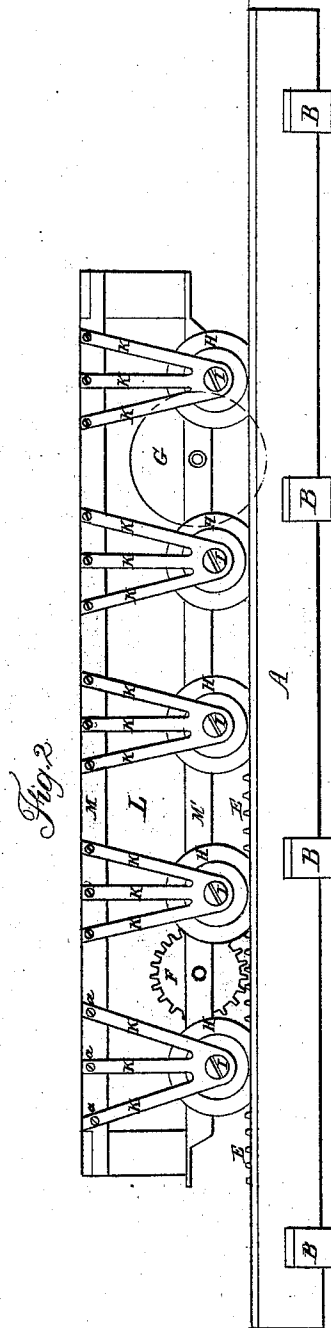
R. CROMELIEN.
Car Truck.

No. { 782, {
31,786. }

Patented Mar. 26, 1861.



Witnesses
J. Montgomery West
Edward Tallmadge



Inventor
R. Cromelien

UNITED STATES PATENT OFFICE.

ROWLAND CROMELIEN, OF NEW YORK, N. Y.

RAILROAD.

Specification of Letters Patent No. 31,786, dated March 26, 1861.

To all whom it may concern:

Be it known that I, ROWLAND CROMELIEN, of the city of New York, State of New York, have invented a new and Improved Mode of
5 Constructing Railroad-Tracks; and I do hereby declare the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference.

10 The following benefits are claimed by me as of superior advantage in the construction of rail road tracks on my principles over the old system: The preservation of life as it is next to an impossibility to have accidents in
15 traveling over and on my treble constructed rail road tracks. The cost of the laying of my rail road tracks, will not average over two thirds of the present outlay because tunneling and all heavy excavating can be
20 avoided. Considerable economy will ensue from the fact of diminished weight in the construction of passenger and freight cars. In the imminent danger consequent on embankments giving way and where on the old
25 method cars and passengers would inevitably be precipitated into destruction and death you would find in my system immunity from danger and security for life because, the motive power or driving wheel
30 runs on the central rail track, balances the car and insures your safety. Locomotives, passenger cars, trucks, &c., being constructed on principles to suit my rail road track necessarily have less labor and strain be-
35 cause they have at least one-half the weight to carry that the present system of car building requires. As my system of rail road track is from its very foundation a continuous arrangement of timber work pro-
40 ducing strength and durability there is no possibility of a breakdown from defective wheels or yielding axle trees but confidence and security inspires the mind of the traveler in his various journeyings.

45 Air line roads are eminently suited to my system and admits of unrivaled speed, safety and security because of the double running bearing to the rollers on the iron rail and the power of steadiness from the adhesive-
50 ness of and to the central track of the driving wheel while it possesses additional advantage over the old system in running through curves by the use of friction rollers in curves secured to the rails on the inside.

55 Figure No. 1 is a top view. Fig. No. 2 is a side view.

Letter A is the longitudinal timber outside rail; letter B, cross ties; letter C, central rail; letters D, D, D, longitudinal iron rail; letter E, central cog rail; letter F, cog
60 wheel; letter G, driving wheel; H, H, rollers; J, shaft connection between rollers.

K, K, K, are the arms for upholding and supporting the rollers; L, car truck; M, M,
65 frame of car truck.

The nature of my invention consists in providing a central rail C to a rail road track and on which central rail track the locomotive driving wheel or wheels G
70 perform their work, instead of as now used and propelled on the side, two driving wheels only being required to a full train, while the frame work M M under the car has secured to it revolving rollers H going
75 over stationary rollers either of which can be used according to necessity.

To enable those who are skilled in the art and wish to use my improved invention I will describe its forms, construction, combinations and operations.
80

I construct my railroad tracks in any of the known forms. I lay five wooden longitudinal timbers A, one of which is placed in the center provided with a rack E, about
85 four inches wide in places where ascending or descending grades are necessary. The outer rails D D are covered with one inch iron bars. The rollers H H attached to the car truck L under the cars are made from
90 nine to fifteen inches in diameter and run on the outer rails with double or treble flanges about three inches in depth without axles, the bearing being on the shoulder of the shaft I of the roller which represents the
95 wheels now used, working on a double timbered rail, lying in a longitudinal line, covered with one inch iron which will be found to be more than sufficiently heavy. The rollers and timber track as described are
100 made to lie on each side of the central track the central track being made of timber twelve inch surface by the same in depth or heavier if the timber allows it. The cross
105 ties B are to be of the same size, while the outside timbers are to be about four inch surface by not less than twelve inches in depth cut into each other or dovetailed the ties are laid at about four feet apart. The driving wheels G may be about ten feet in
110 diameter or divided into smaller ones as may be most expedient. For ascending mountains the cog rack rail E is laid in the

middle of said central rail four inches wide leaving four inches on each outside of said central rail for the bearing of the driving wheels which follow to do their portion of labor. In ascending the grades the cog rail appears and disappears as the land or route may exist. Between the cow catcher and the locomotive is a cog wheel F of weight about one ton and four inches in breadth to fit on the cog rail which by means of leverage or by any other practical machinery is raised from the track or lowered on the track one inch whenever it is to be used for ascending grades. This plan will be found economical to capitalists in constructing rail road tracks.

Outside tracks can be made either entire or in part of timber, iron, stone or glass for the rollers or runners to travel over.

A very desirable modification in rollers can be made to work advantageously in the shape of cannon balls half covered and running attached under the car working and traveling in a groove or box. Curves can be passed with less friction, labor or danger than the present mode. The central track being ten inches wide gives the driving wheels two inches room to play to either side of the bearings. The outside rails are made one inch wider to give free play while running by the curves. Another modification of the rollers can be made by forming the same into three parts or a rim within a rim thus producing less friction. For in-

stance the first roller of fifteen inches makes the first rim fifteen inches in diameter by four inches deep, the next eleven inches in diameter by four deep, the third and last seven inches in diameter stayed and properly secured within each other to make one complete roller. In the center of the seven inch piece is to be made an opening for a three inch shaft I, which should be twelve inches long and pass through said hole to unite the said rollers, which perform their work on the outside rollers.

I disclaim being the inventor of rail road tracks and all their general contrivances as now used.

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

Constructing rail roads with three or more tracks on the center rail of which the driving wheels of the engine placed perpendicular run, with smooth wheels and smooth rails on the level portion of the track, and coggod wheels and track rails on the inclines working on the central rail track, while the side wheels of the rolling machinery are double flanged and also the driving wheels, with short independent axles, the whole constructed combined and arranged substantially as herein described.

Washington, D. C., December 15th, 1860.
RD. CROMELIEN.

Witnesses:

DANIEL R. PRATT,
JAMES MCCAHEN.