R. T. M. WELLS.

Car Starter.

No. 45,778. Patented Jan. 3, 1865.

Fig. 1.

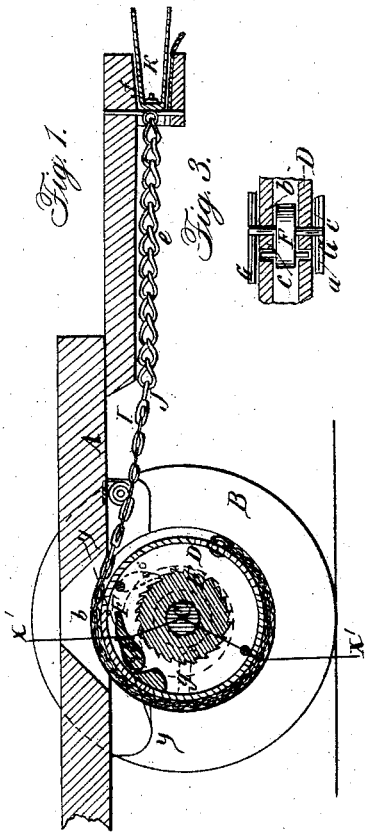


Fig. 3.

Fig. 4.

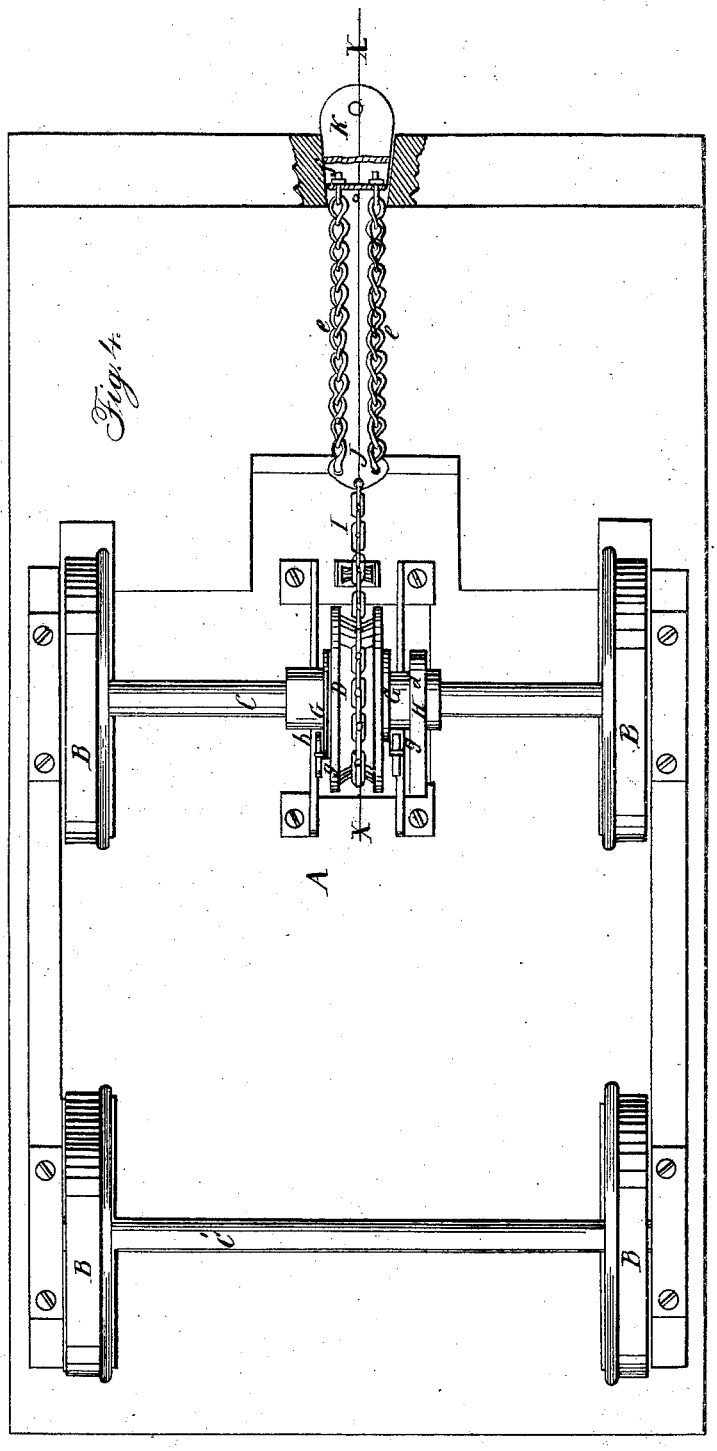
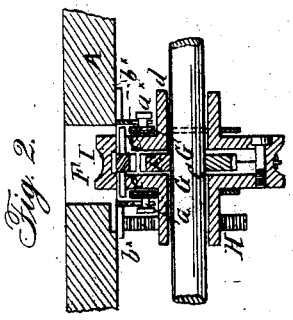


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

R. T. M. WELLS, OF FRANKLIN CENTRE, VERMONT.

IMPROVEMENT IN RAILROAD-CARS.

Specification forming part of Letters Patent No. **45,778**, dated January 3, 1865.

To all whom it may concern:

Be it known that I, R. T. M. WELLS, of Franklin Centre, in the county of Franklin and State of Vermont, have invented a new and useful Improvement in Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section of my invention applied to a car-truck, *x x*, Fig. 4, indicating the line of section; Fig. 2, a transverse vertical section of the same, taken in the line *x' x'*, Fig. 1; Fig. 3, a section of the same, taken in the line *y y*, Fig. 1; Fig. 4, an inverted plan of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved means for facilitating the starting of the cars, whereby considerable power is gained and the team greatly relieved. Loaded cars may when they are started be drawn with great facility by a team which would not be able to start them or only with great difficulty. My invention fully obviates the trouble in starting the cars at any time or at any point on the track where it may be necessary for a car to stop.

A represents a car-truck or the lower part of a car; B, the wheels, and C C' the axles thereof. These parts may be constructed in the usual way, and therefore do not require a minute description.

D represents a hollow pulley, which is placed loosely on one of the axles, C, so that it may turn thereon independently of the axle, and on the axle within said pulley there is permanently secured a ratchet, E.

F is a pawl which works on a pivot, *a*, within the pulley D, and has a rod, *b*, passing transversely through it, the ends of said rod passing through oblong slots *c* in the sides of the pulley which admit of the pawl rising and falling to a certain extent. The ends of the rod *b* rest on two stationary eccentrics, G G, which have pins $a^{\times}$ passing through them and through plates $b^{\times}$, attached to the under side of the car-bed, and are placed one at each side of the pulley D, the hub *d* of the pulley passing loosely through the eccentrics.

H is a coil-spring, one end of which is attached to the hub *d* of the pulley D, and the opposite end attached to the under side of the car-bed. This spring has a tendency to keep the pulley D forced back, so that the ends of the rod *b* will be on the elevated parts of the eccentrics G G and the pawl F raised free from the ratchet E, as shown in Fig. 1.

To the pulley D there is attached a chain, I, which has a plate, J, secured to its outer end, and to each end of the plate J there is attached a rope or chain, *e*, which extends forward through an opening, *f*, in the front sill of the car-bed, and are attached to a clevis, K, in which the double-tree is secured. When the pull of the team is not on the chain I, the spring H keeps the clevis K in the opening *f*, as shown in Fig. 1.

From the above description it will be seen that when a car is first started the pulley D will turn loosely on the axle A a short distance until the ends of the rod *b* pass down the elevated parts of the eccentrics G G and the pawl F comes in contact with the ratchet E, when the axle will be rotated under the pull of the team and the car started by the application of power to the wheels of said axle. The pulley D turns until the plate J comes in contact with the sill through which the opening *f* is made, and the car is then drawn under the direct pull of the team. The pawl F, owing to the relative position of its pivot *a* with the ratchet E, will drop free from the ratchet when the plate J comes in contact with the sill, and when the chain I is relieved from the pull of the team the spring H will throw the pulley D back to its original position and the pawl F will be thrown up free from the ratchet E, the clevis K serving as a stop to the backward movement of the pulley.

In order to provide for the contingency of the breaking of the chain I or the ropes or chains *e e*, I attach a small stop, *g*, to each eccentric against which the ends of the rod *b* will come in contact. Thus if the chains above mentioned should break or give way under the pull of the team, the pulley D cannot be thrown backward an undue distance. Thus by a very simple arrangement a team, one or

more, may start a car as heavily laden as they can draw when the car is in motion.

I would remark that this invention is applicable to all railroad-cars to which horses or draft-animals may be attached.

I claim as new and desire to secure by Letters Patent—

1. The loose pulley D, with draft-chain I attached, in connection with the ratchet E, attached permanently to the axle C, and the pawl F, placed within the pulley, to operate in the manner substantially as and for the purpose set forth.

2. The eccentrics G G, in connection with the rod *b*, passing through the pawl F, all arranged as shown, to free the pawl from the ratchet when the pulley is thrown back, as herein described.

3. The coil-spring H, in combination with the pulley D, ratchet E, and pawl F, arranged substantially as and for the purpose specified.

4. The stops *g g*, attached to the eccentrics G G, when used in connection with the pulley D, spring H, pawl F, and ratchet E, for the purpose set forth.

R. T. M. WELLS.

Witnesses:
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