W. H. LYNN
Car-Starter.

No. 197,280. Patented Nov. 20, 1877.

Fig. 1

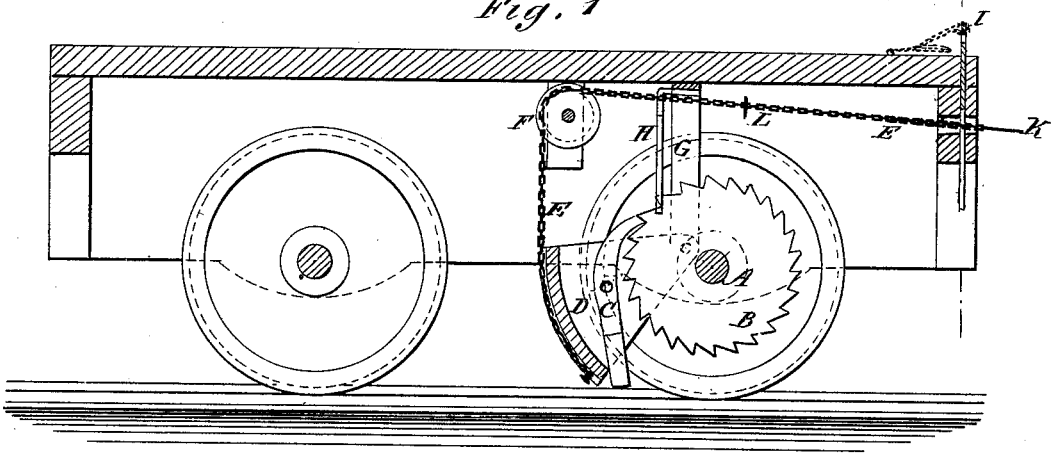


Fig 2

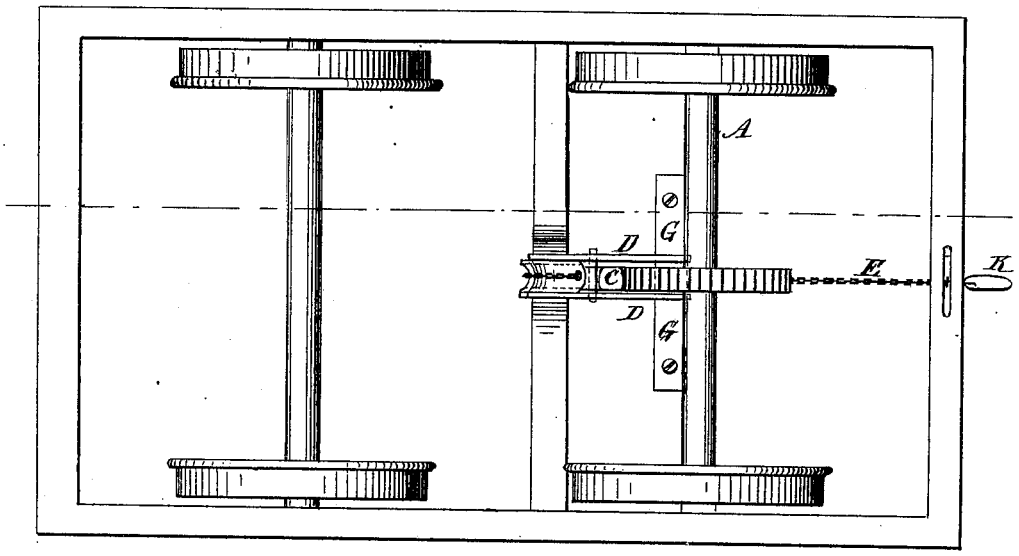
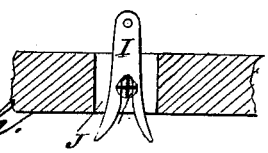


Fig. 3



WITNESSES:
C. Neveux
J. H. Scarborough.

INVENTOR:
W. H. Lynn.
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM H. LYNN, OF FREEPORT, ILLINOIS, ASSIGNOR TO HIMSELF AND THOMPSON WILCOXON, OF SAME PLACE.

IMPROVEMENT IN CAR-STARTERS.

Specification forming part of Letters Patent No. **197,280**, dated November 20, 1877; application filed October 12, 1877.

To all whom it may concern:

Be it known that I, WILLIAM H. LYNN, of Freeport, in the county of Stephenson and State of Illinois, have invented a new and Improved Car-Starter, of which the following is a specification:

The object of this invention is to provide an attachment to railroad-cars to avoid a difficulty sometimes experienced in starting them, in trains by a locomotive as well as by animal power.

The invention is an improvement upon that form of car-starter in which a ratchet-wheel upon the axle is combined with a segmental lever carrying a weighted pawl and a chain arranged about the segment to cause the pawl to engage with the ratchet to turn the axle at a greater advantage of leverage.

The improvement consists in pivoting the segmental lever upon a hanger eccentrically to the axle, so that as said frame is elevated by the chain to start the car, the pawl is thrown away from the periphery of the ratchet.

The improvement also consists in combining, with the pawl, the segmental lever, and the ratchet-wheel, a releasing or tripping spring, for removing the pawl from the tooth of the ratchet, to which it is held by the frictional contact incident to the draft-strain.

The improvement also further consists in the particular construction and arrangement of devices for holding the pawl and segmental frame up and away from the wheel while the car is in motion.

In the drawings, Figure 1 is a vertical longitudinal section of a railroad-car having my improved attachment. Fig. 2 is a view of under side of same. Fig. 3 represents the chain-locking device.

Similar letters of reference indicate corresponding parts.

To the middle of the car-axle A is firmly secured a strong ratchet-wheel, B. A weighted pawl-lever, C, is pivoted to a second lever, D, in such manner that the upper arm of the pawl-lever C is thrown forward and caused to engage the teeth of the ratchet-wheel B by a suitable weight attached to or forming a part of the lower arm of the said pawl-lever.

The lever D may have the form of a sector of a circle, as shown in the drawings.

To the rear end of lever D, or lower corner of the sector, is secured one end of a chain, E, that passes upward and along the face of the sector, if sector is used, over a suitable guide-pulley, F, and thence through the forward end of the car, where power may be applied to it for the purpose of starting the car.

The pivot forming the fulcrum of lever D is in the lower extremity of a hanger, G, pendent from the under side of the car frame or platform, and is located a little above and to the rear of the axle, in such manner that when the pawl is disengaged from the teeth of the ratchet no part of the starting device will touch either the ratchet or the axle.

The upper arm of the pawl-lever C is made wider than the face of the ratchet, so that the upper corners project enough beyond the face of the ratchet-wheel to come in contact with the spring H and throw the pawl out of the ratchet whenever the lever D is raised sufficiently.

A single lever, D, spring H, and hanger G may be employed, situated on one side only of the ratchet-wheel, or the spring H and hanger G may be double or forked, as shown in the drawings, descend and connect with a forked lever, D, on each side of the ratchet, as in the present example, in which the forked lever D consists of two plates, in the form of circles, carrying pawl-lever C by a pivot passing through both of them, said plates being firmly attached to a face-plate curved to the circle of the sector, over which the chain E passes.

In the drawings, the lever D and the pawl-lever C are shown in their lowest position. If, while in this position, a sufficient strain is put on the chain E, the car-wheel will be caused to revolve, and the car thereby started. When the pawl reaches the spring H it will be thrown out of the ratchet-teeth, as before said, and no part of the device will touch either the ratchet or the car-axle. To retain the device in this position, a chain lock or fork, I, is provided, attached to the car by a small chain or cord, to prevent its being lost, which fork is dropped into a suitable opening, J, in the car-frame,

and prevents the return of the chain E. By releasing the chain the pawl drops again to its lowest position, a stop or link, K, preventing it from going too far. A stop, L, is also placed on the chain E to prevent injury to the pawl or to the spring H when the car starts.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the ratchet-wheel B and the chain E, of the lever D, carrying weighted pawl C, and pivoted eccentrically to the axle upon an independent support, substantially as described, and for the purpose set forth.

2. The releasing-spring H, combined with the lever D, pawl C, and ratchet-wheel B, and arranged beside the teeth of the latter, to release the engagement of the pawl, substantially as shown and described.

3. The combination, with the car-starting devices, consisting of a lever, pawl, ratchet-wheel, and chain, of a forked locking device, I, arranged in vertical guides to encompass, clutch, and hold the chain, and maintain the devices disengaged, substantially as shown and described.

WILLIAM HENRY LYNN.

Witnesses:
JNO. B. TAYLOR,
LUTHER W. GUITEAU, Jr.