

J. CLARK.
Car-Starters.

No. 151,684.

Patented June 9, 1874.

Fig. 1

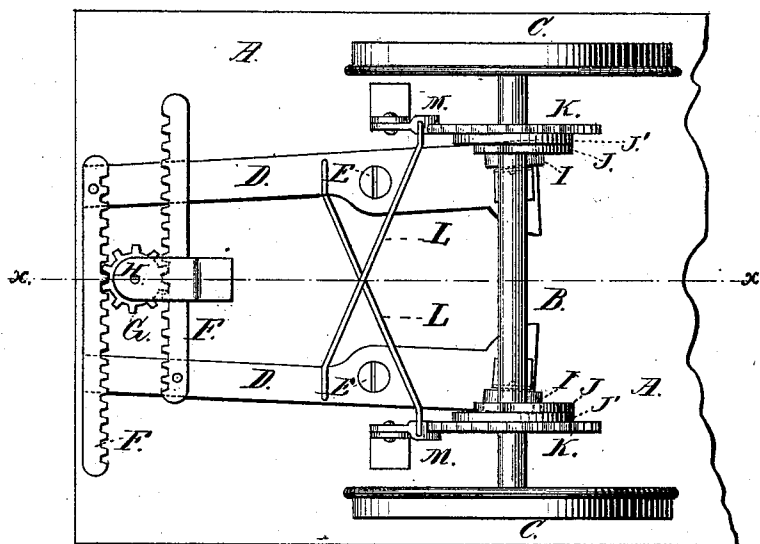
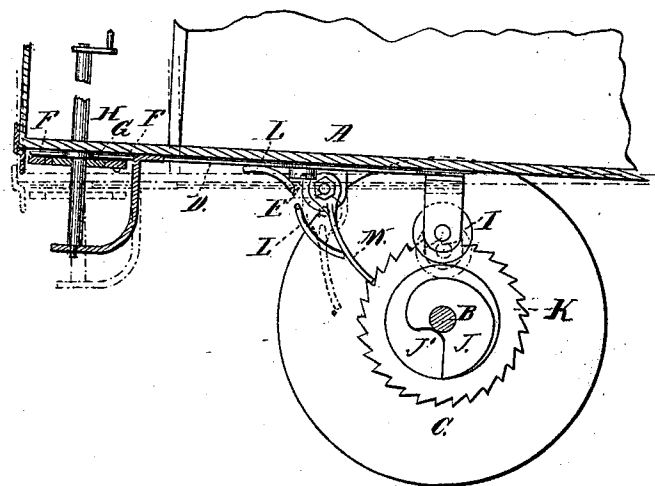


Fig. 2



Witnesses.

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JOSEPH CLARK, OF CAMDEN, NEW JERSEY.

IMPROVEMENT IN CAR-STARTERS.

Specification forming part of Letters Patent No. **151,684**, dated June 9, 1874; application filed April 5, 1873.

To all whom it may concern:

Be it known that I, JOSEPH CLARK, of Camden, in the county of Camden and State of New Jersey, have invented a Combined Car Brake and Starter, of which the following is a specification:

My invention relates to the combination of levers with the starting-rod and with cam-wheels on the front axle, in such a manner as to provide for elevating the front end of the car, so as to have the weight of the car available for starting the same. The device also acts as a brake, as hereinafter described.

Figure 1 is a reverse plan view of the front end of the bottom A of the car and parts attached. Fig. 2 is a vertical section at the line *x x* of Fig. 1, in a direct position.

Like letters of reference in both figures indicate the same parts.

A represents the bottom of the car. B is the front axle, and C C traction-wheels. D D are levers, connected by means of the fulcrum-pins E E with the bottom of the car. The front ends of the levers are provided with toothed racks F F, which connect with the pinion G on the starting-rod H. (Seen clearly in Fig. 2.) The rear ends of the levers are provided with friction-wheels I I, which are brought under the cam-wheels J J, fast on the front axle B, by turning the starting-rod H, so as to bring the levers into the position seen in Fig. 3. The large part of the cams in the forward motion of the car being brought into contact with the wheels of the car, the front end of the same is elevated, as seen in full lines in Fig. 3. The cam-wheels J J terminate with concentric parts J' J', which roll on the friction-wheels when the rear ends of the levers are borne farther outward, by a further turning around of the starting-bar, and the flat sides of the friction-wheels are brought into contact with the inner sides of the ratchet-wheels K K, which are fast to the cam-wheels, so as to act as a brake, thus dispensing with the necessity of using ordinary brakes. There

are springs L L, connected at one end, respectively, with the levers D D, their free ends bearing against the pawls M M, so as to bring them into contact with the said ratchet-wheels K K, when the levers are thrown into the position seen in Fig. 2, thereby holding the front end of the car in its elevated position, while in this position the operator, by bearing hard on the handle of the starting-rod, forces the sides of the friction-wheels against the inner sides of the ratchet-wheels and stops the car.

When the car is to be started, the driver, by giving the starting-bar a reverse motion, turns the rear ends of the levers D D inward, thus drawing the friction-wheels I I from under the cam-wheels J J, and the ratchet-wheels being still connected with the pawls, the front end of the car descends gradually until it comes to its lowest position. In coming into this position the weight of the end of the bearing upon the pawls gives a rolling motion to the wheels and starts the car.

In the rolling off of the ratchet-wheels the pawls M are disengaged and fall back from the wheels by their own weight into the position seen in broken lines in Fig. 3.

I claim as my invention—

1. The combination of the levers D D, having friction-wheels I I, with the starting-rod H and the cam-wheels J J, having ratchet-wheels K K and annular concentric surfaces J' J' on the axle B, substantially as described.

2. In combination with the bottom of the car and the axle B, the cam-wheels J J, having annular concentric surfaces J' J', starting-rod H, levers D D, provided with friction-wheels I I, toothed racks F F, pinion G, ratchet-wheels K K, and springs L L, substantially as described.

JOSEPH CLARK.

Witnesses:

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THOMAS J. BEWLEY.