W. JASPER.

Car-Starters.

No. 199,158. Patented Jan. 15, 1878.

Fig. I.

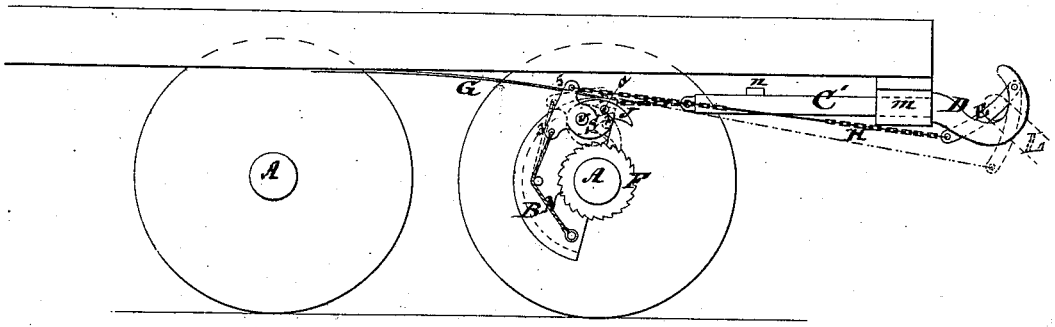
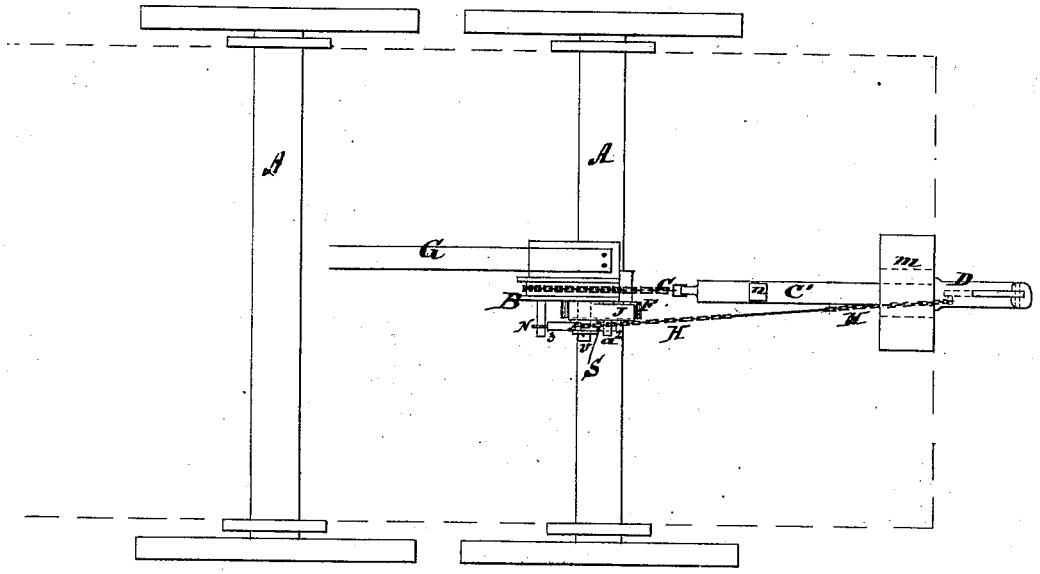


Fig. II.



Witnesses.

Em. Guiard

A. Mueschenborn

Inventor:

Wilhelm Jasper

per Burry & Roeder

attorneys

UNITED STATES PATENT OFFICE.

WILHELM JASPER, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS HIS RIGHT TO HERMAN MOSCHOWITZ AND SCHAMU M. MOSCHOWITZ, OF SAME PLACE.

IMPROVEMENT IN CAR-STARTERS.

Specification forming part of Letters Patent No. **199,158**, dated January 15, 1878; application filed June 26, 1876.

To all whom it may concern:

Be it known that I, WILHELM JASPER, of New York, in the State of New York, have invented certain new and useful Improvements in Car-Starters, of which the following is a specification:

This invention is an improvement on the patent granted to H. Moschowitz and myself on the 30th day of May, 1876, No. 178,021; and consists in the arrangement of a lever on or within the hook on the end of the draw-bar, connected with a cam or lever, acting upon the pawl in such a manner that the weight of the link at the center of the whiffletree, when connected to the draw-hook, will move said lever on the draw-hook, and thereby allow the pawl to fall into gear, and to remain there as long as the whiffletree is connected to this draw-hook; and, further, in the arrangement of a suitable spring or elastic cord, or of a weight to the cam or lever, which operates the pawl, so as to force the said pawl out of gear as soon as the whiffletree is removed from the draw-hook.

In the accompanying drawings, Figure I represents a longitudinal side elevation of a car-truck embodying my invention. Fig. II is a plan of the same.

Upon the axles A a loose wheel or sector, B, is placed, around which the draft-chain C, attached to the draw-bar C′, is placed. This wheel or sector B runs freely between collars on the shaft. At the end of the draw-bar C′ is the draw-hook D, to which the link L (shown in dotted lines in Fig. I) of the whiffletree is attached. Against one side of the wheel or sector B a ratchet-wheel, F, is arranged, firmly attached to the axle A, and a pawl, J, is arranged, turning freely on a pin, *v*, attached to the side of the sector B, and working in the teeth of the ratchet-wheel F. Upon the pin *v* a lever or cam, S, is arranged, capable of turning freely on said pin *v*, and provided with a nose or projection, 2, acting against a projecting pin, *a*, fast to the pawl J, and with ears or lugs 3 and 5. In the central part of the draw-hook D, or on the side of the same, a lever, E, is hinged, whose lower end is connected, through a rod or chain, H, with the ear or lug 5 of the cam S, and to the lug 3 of said cam a spring or elastic cord, N, attached at its other end to the wheel or sector B, is fastened. G is a spring or india-rubber band, one end of which is connected to the sector B, and the other end of which is attached to the platform of the car, or to the sector placed upon the other axles, to move the sector and draw-bar back again, as fully described in the above-mentioned Patent No. 178,021.

In the position shown in the drawing, where the whiffletree is not attached to the draw-hook D, the spring or elastic cord N acts upon the cam S in such a manner as to cause its nose 2 to force and hold the pawl J out of gear with the teeth of the ratchet-wheel F, and the lever E is within the circular opening of the draw-hook D. (See Fig. I.)

As soon as the whiffletree is connected to the car, by attaching its link L to the draw-hook D in the usual manner, the weight of the same will move the lever E, and, through its connecting-rod H, the cam S, so as to allow the pawl J to fall into gearing with the teeth of the ratchet-wheel F, as shown in dotted lines, Fig. I, and thus connect the sector B with the axle A, when the horses pulling upon the draw-bar will cause the sector B to turn around, and, as the pawl J is connected with the ratchet-wheel F, cause thereby the rotation of the axle A and start the car.

It will be perceived that as long as the whiffletree is connected to the draw-hook D, the pawl J will remain in gearing even if no power is applied upon the same, as the weight of said whiffletree acts upon the lever E, and thereby causes the cam S to be kept clear of the pawl J.

Another advantage derived from this arrangement of insuring the connection of the pawl with the ratchet-wheel all the time the whiffletree is connected to the draw-hook consists therein, that in this position it will act partly as a brake, by preventing the wheels from moving or turning backward in case the car should stop on an inclined surface.

As shown in the drawing, the pawl is arranged on the upper part of the sector above

the axle; but the same may be arranged on the lower part below the horizontal center line of the axle, in which case the spring N may be dispensed with, and a counter-weight attached to the cam S, to move the pawl J clear of the ratchet-wheel F as soon as the lever E is relieved of the weight of the whiffletree.

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

1. In a car-starter, the pawl J, in combination with a cam, S, connected to a lever, E, arranged in the draw-hook D, and operated by the attachment or weight of the whiffletree, substantially in the manner and for the purpose described.

2. In combination with the draw-hook D, a lever, E, connected to a cam, S, arranged to operate substantially as set forth.

W. JASPER.

Witnesses:
EM. GUIARD,
S. M. MOSCHOWITZ.