

N. J. WILKINSON.

Car-Starters.

No. 136,398.

Patented March 4, 1873.

Fig. 3.

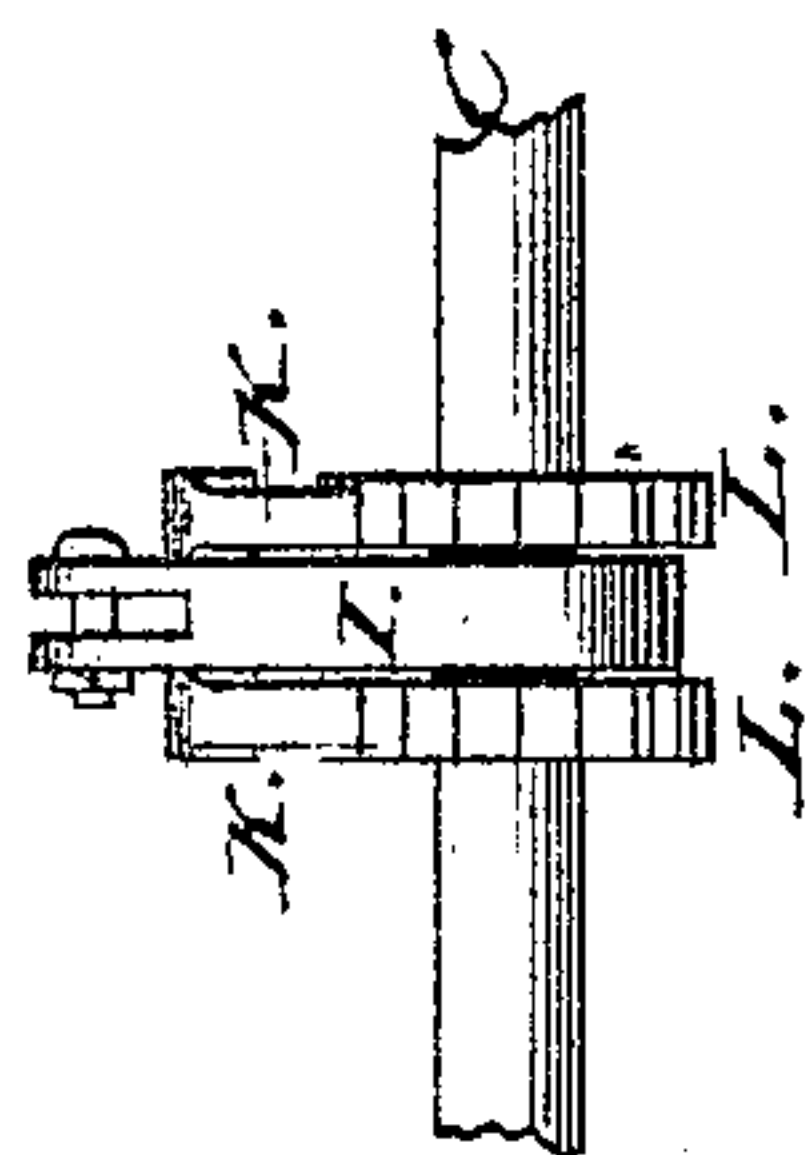
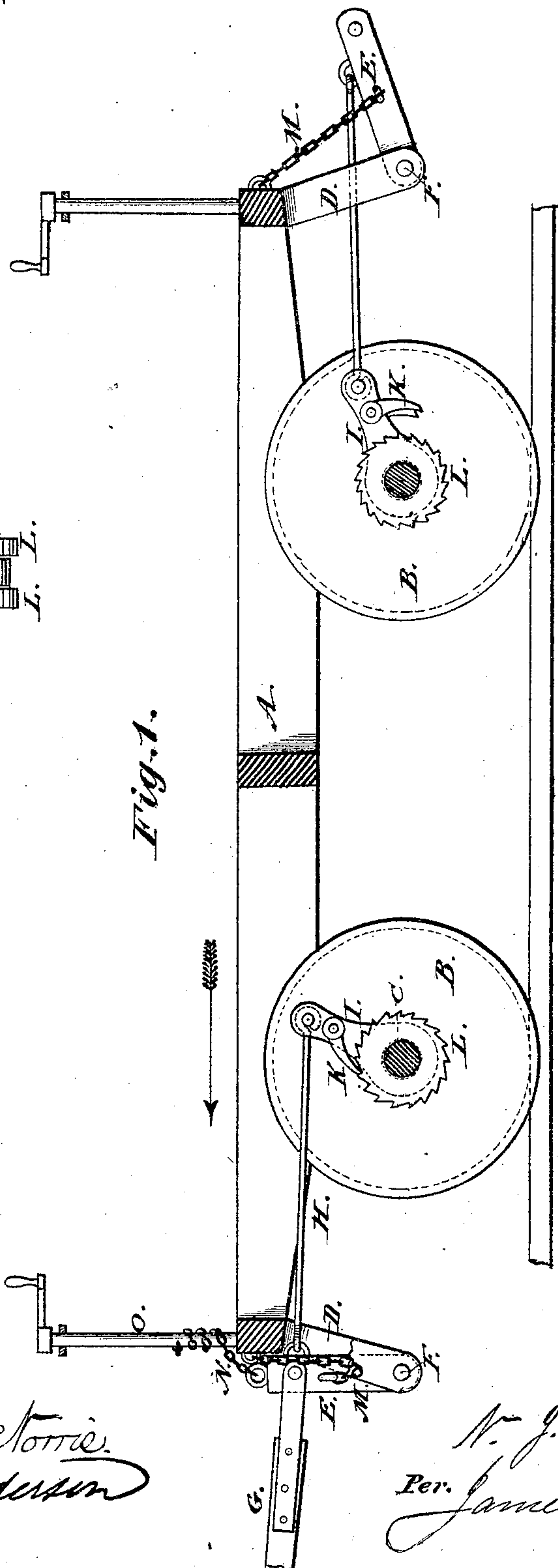


Fig. 1.



Witnesses:

Albert H. Corrie.  
Wm. B. Anderson

Inventor.

N. J. Wilkinson.

Per. James E. Norris.

Attorney.

N. J. WILKINSON.  
Car-Starters.

No. 136,398.

Patented March 4, 1873.

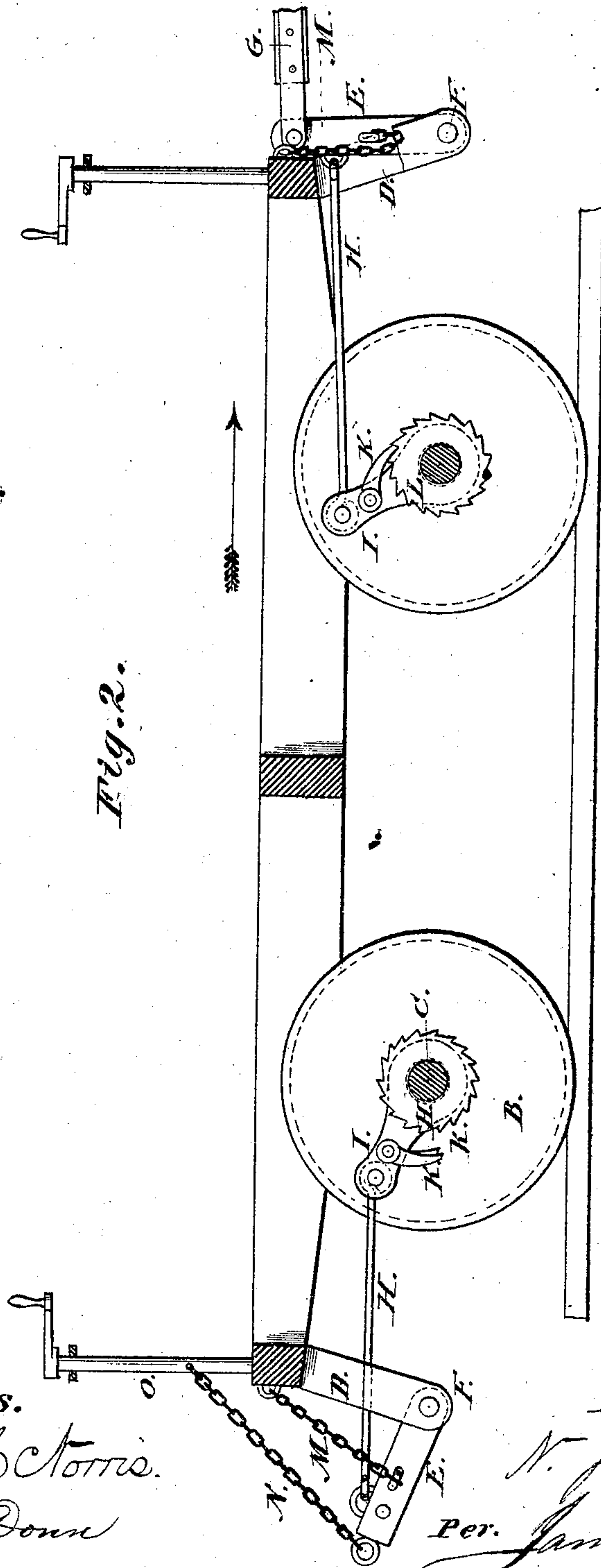


Fig. 2.

Witnesses.  
Albert H. Norris.  
Edw. W. Dunn

Inventor.  
N. J. Wilkinson.  
Per. James L. Norris.  
Attorney.



# UNITED STATES PATENT OFFICE.

NELSON J. WILKINSON, OF KALAMAZOO, MICHIGAN.

## IMPROVEMENT IN CAR-STARTERS.

Specification forming part of Letters Patent No. 136,398, dated March 4, 1873.

*To all whom it may concern:*

Be it known that I, NELSON J. WILKINSON, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Car-Starters, of which the following is a specification:

This invention has for its object to furnish a simplified combination of elements constituting a car-starting mechanism, effective in operation and compendious in construction, which results are attained without resorting to the complexity of parts generally found in devices for the same purpose as heretofore constructed. The principal feature of the invention consists in the provision of a lever or arm pivoted to pendent brackets projecting from the car body or floor, and to which is attached the ordinary draft-pole, and to which is also attached one end of a connecting-rod, the other end of which is secured to a vibrating arm or frame, mounted on the axle of the transporting-wheels, and carrying one or more pawls, which are brought in contact with ratchet disks or wheels on the axle, when the motion of the car is checked, so as to furnish an effective medium for overcoming the inertia or assisting the pull of the draft-animals in imparting a progressive movement to the car. The second feature of the invention consists in the employment of an auxiliary chain, which is so combined with the devices constituting the starting mechanism, and with the brake-lever, as to furnish a medium for bringing the pawls in contact with the ratchet-wheels until the proper time of disengagement.

In the drawing, Figure 1 is a longitudinal section representing the component parts of the entire starting mechanism. Fig. 2 is a corresponding view of the parts in a different position. Fig. 3 is a detached view of the ratchet and pawl devices.

The car body or frame is designated by the letter A, and the transporting wheels and their respective axles by B C, all of which parts are of the usual construction. To both ends of the car are secured pendent brackets or arms D, between which is arranged and pivoted a lever, E, having its fulcrum at its rear end, as shown at F, and to which the ordinary draft-pole G is directly connected. Said lever is connected by means of a rod, H,

to a vibrating arm, I, as shown in Figs. 1, 2, and 3, which arm carries one or more pivoted pawls, K, operating in the manner hereinafter described.

When the motion of the draft-animals is checked, it will be obvious that by reason of the attachment of the draft-pole to the lever E, the latter will be caused to assume a vertical position in relation to its supporting brackets, thus imparting a corresponding movement to the vibrating pawl frame or arm, and causing the pawls to engage with one or more ratchet-wheels, L, affixed or keyed to the axles of the car-wheels.

If the draft-animals are now started, the pole and the lever E will be depressed or brought to a horizontal position, and the pawls, by reason of their contact with the ratchet-wheels, will aid the rotation of the axles, thus overcoming the inertia of the car, or assisting the pull of the draft-animals in starting the same. As soon as the arm I is drawn to the position shown in Fig. 1, the pawls will drop or be disengaged by their inherent gravity, thus offering no obstacle to the free rotation of the wheels.

When the car is running, it is desirable and absolutely necessary to remove the strain or draft from the starting devices, and cause the same to be directly upon parts capable of sustaining the pull or draft without injury or derangement, and for this purpose I attach the lever E to a draft chain or chains, M, which are connected to the car-body and lever, as shown. The lever, which is in a horizontal and depressed position when the draft is upon the same, as previously described, will sustain, in connection with the draft chain or chains, the entire pull of the animals, thus relieving the connecting-rod and pawls and vibrating frame from all injurious strain.

In general practice it will be found expedient to resort to devices for bringing the pawls in contact with the ratchet-wheels on the car-axle for imparting the desired progressive movement to the same, and for this purpose I employ an auxiliary chain, N, which is connected with the lever E, and with the lever-brake O, so that the chain can be coiled around the latter for bringing the lever E in an elevated position and the pawls in contact

with the ratchet-wheel, until it is desirable to start the car, when the chain is uncoiled for permitting the free movement of the starting devices.

The number of ratchet-wheels and pawls may be varied without departing from my invention, which consists, as above described, essentially in the provision of a lever and its appendages, arranged and operating as shown.

I do not broadly claim operating the ratchet-wheels by a connection-rod and a lever pivoted under the front of the car, said lever being controlled in its movements by the action of a spring, as such is not my invention; but I claim—

The lever E, pivoted at one end upon the pendent arms D D, secured upon the front of the car-frame, and provided with the draft and bearing chains M M, as shown, in combination with the connecting-rod H, sleeve I, pawls K K, and ratchet-wheels L L, with or without the winding-chain N, substantially as herein shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of February, 1873.

NELSON J. WILKINSON.

Witnesses:

ALBERT H. NORRIS,  
JAMES L. NORRIS.