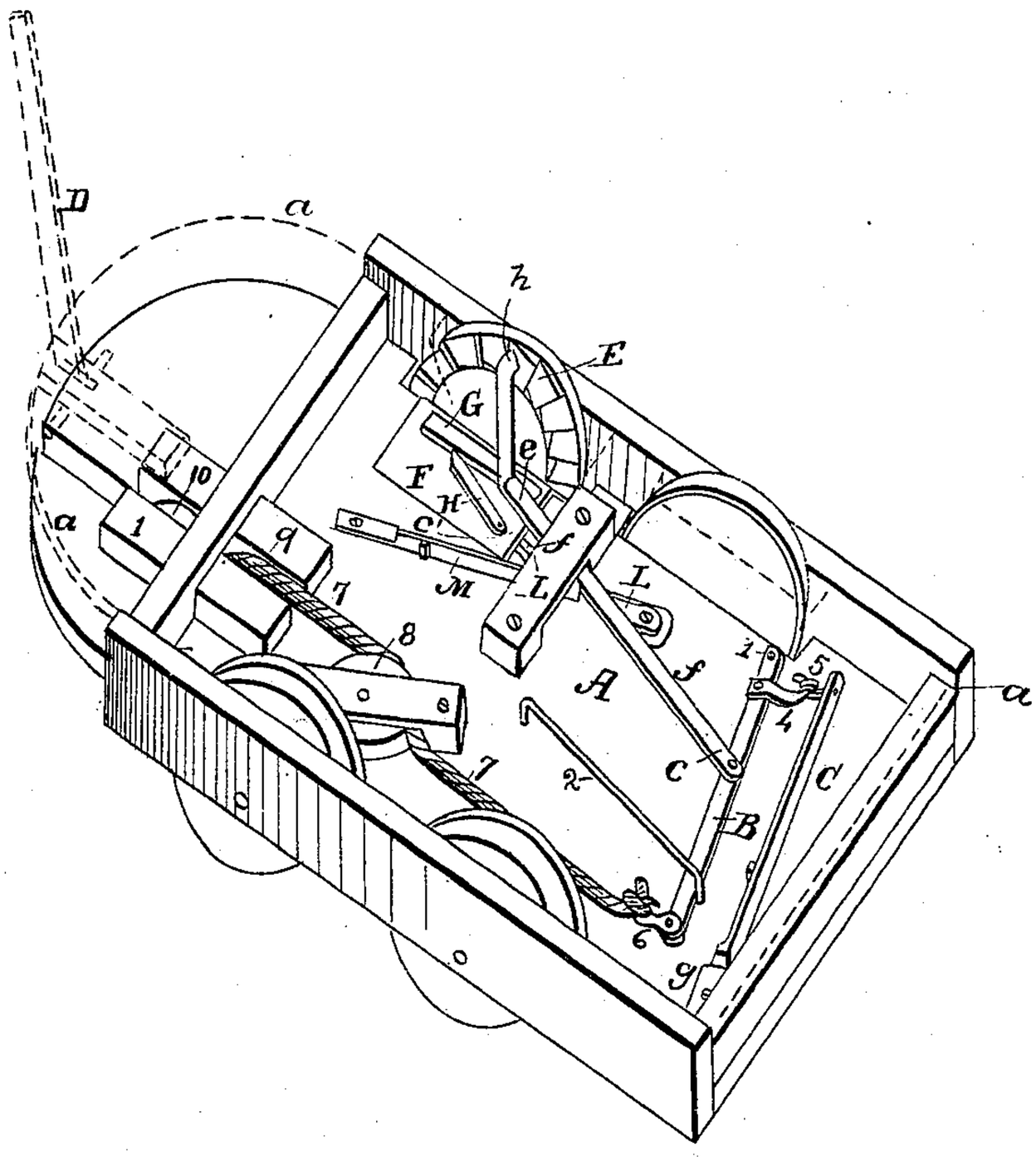
A. B. DAVIS.

Car Starter.

No. 93,283. Patented Aug. 3, 1869.



Witnesses:
Rufus R Rhodes
H. N. Jenkins

Inventor:
A. B. Davis

United States Patent Office.

ANDREW B. DAVIS, OF CATAHOULA PARISH, LOUISIANA.

Letters Patent No. 93,283, *dated August* 3, 1869.

IMPROVED CAR-STARTER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ANDREW B. DAVIS, of Catahoula parish, State of Louisiana, have invented a certain new and useful Improvement in Machines for Starting City-Railroad Cars; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification.

The object of my invention is to relieve the animals of the hard duty of starting cars from a state of rest, and thus to prevent the injurious straining to which they are now subjected, as well as other well-known and more serious evils that are incident to said duty.

And my invention consists of an arrangement of mechanical parts underneath the floor of the car, by which the driver is enabled to bring to bear a sufficient lever-power at or near the periphery of one or more of the wheels of the car, to start it without the aid of the animal, and with very little expenditure of force on his own part. The annexed drawing clearly shows every part of my said arrangement; and I now refer to it, in order the better and more quickly to describe it. But first, it is proper to state, that in order to apply it to a car, it is first requisite to make a second or duplicate floor, A, as shown on the drawing the floor proper being removed in order to expose, my invention to view, but its position is nevertheless indicated by the red lines *a*.

On the supplemental lower floor a lever, B, which extends entirely across the same, is pivoted at one of its extremities, as shown at 1.

An elongated staple or guard, 2, maintains this lever in its place, whilst allowing it a sufficient sweep to accomplish my purpose.

To draw, and hold this lever back to the rear limit of its sweep, a spring, C, is secured by a proper bolt at 3, which spring extends nearly to the pivot of said lever, and is fastened to the latter by a double loose hook-connection, as shown at 4, 5.

At its vibrating extremity, the lever B is provided with a hook, 6, or its equivalent, for the attachment of a rope, 7, that leads over two pulleys, one marked 8, occupying a horizontal, and the other, marked 9, a vertical position, and underneath, another, marked 10, to the short arm of a lever, D, which, coming up through the platform, outside the car at or near its front edge, presents its long arm above the platform, within easy reach of the driver, as shown.

On the inside of the rim of one of the front wheels of the car, I secure a circular ratchet, E, near its periphery, as shown, to enable me to apply the power of my levers to the best possible advantage in the attainment of my object.

On the supplemental floor A, substantially as shown, I attach a plate, F, to which are secured, in a permanent and fixed position, a guide-bar, G, and a pivoted arm, H, the front end of the latter being pointed, and held in contact with the former by means of a spring, L, underneath the plate which impinges against a downwardly-projecting pin at the other or rear end of said arm, that is not shown on the drawing.

The guide-bar G, at its rear end, is provided with a projection or elbow, *o*, which subserves a purpose to be presently explained.

To the lever B, I pivot a clutch, J, at the point *e*, or nearer to the pin 1.

This clutch is provided with a pin, *e*, which projects downwardly just in front of the elbow *o*, of the guide G, which prevents it from being retracted by the action of the spring C, back of the point which it occupies on the drawing, and just beyond the pin *e*, this clutch is bent so as to present a vertical section, *j*, that terminates in a horizontal point, *k*, as shown, which is so formed as to take into the ratchet E, and force a revolution of the wheel to which it is attached whenever sufficient power is applied to accomplish that object.

A spring, M, presses against clutch J, and holds it continually against the bar G, and at its point against the ratchet E.

The parts being in the position shown on the drawing, and the car to which it is attached in a state of rest, the operation of the apparatus is as follows:

The driver pulls back the lever D, and through the agency of the cord 7, and the lever B, forces the clutch forward, and in doing so, rotates the wheel to the extent of the sweep of lever B at the point at which the said clutch is connected thereto. Before, however, the clutch reaches the limit of its forward stroke, the pin *e* passes the front point of pivoted bar H, which yields until that result is attained, and then, under the force of spring L, flies back again to its place, so that when the driver lets go the lever D, and the clutch is drawn back by the spring C, it is, at the same time thrown off from the wheel by the interposition of the said bar H, against which the pin *e* strikes, and follows on the outside, until, passing its rear extremity, it permits the clutch to resume its normal condition, as shown on the drawing. My arrangement gives me the force and effect of a compound lever of almost unlimited power.

Having thus described my invention,

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

The lever B, spring C, and clutch J, in combination with bars G and H, the springs L and M, and the ratchet E, when these several parts are constructed, arranged, and operate substantially as described, for the purposes set forth.

A. B. DAVIS.

Witnesses:

RUFUS R. RHODES,

GEO. B. HOLZACH.