

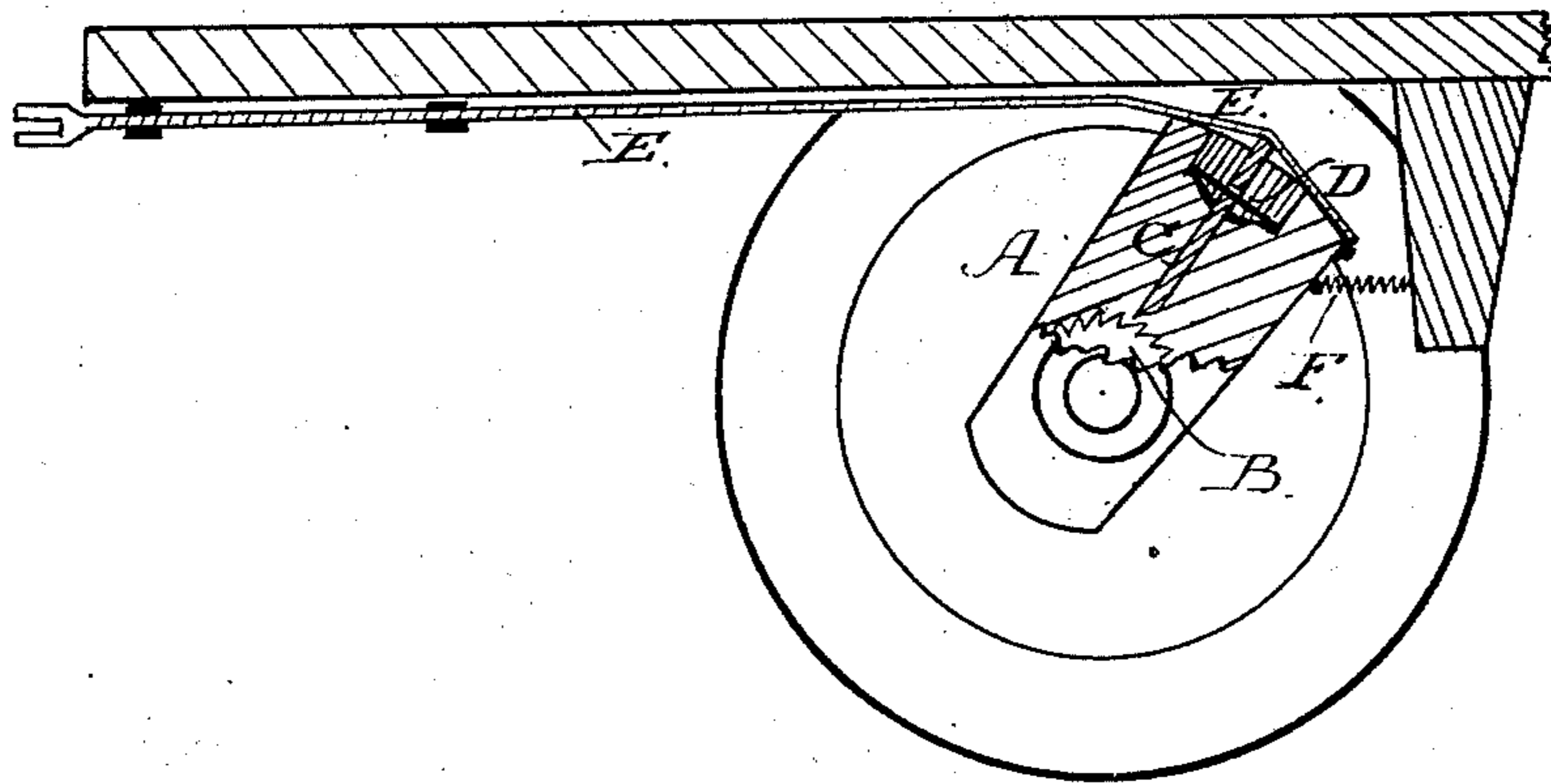
(No Model.)

W. B. CLEVELAND.

CAR STARTER.

No. 281,975.

Patented July 24, 1883.



Witnesses  
W. J. Haviland  
Geo. W. Eames

Inventor  
William B. Cleveland  
By Attys.  
Wooster & Smith

# UNITED STATES PATENT OFFICE.

WILLIAM B. CLEVELAND, OF BRIDGEPORT, CONNECTICUT.

## CAR-STARTER.

SPECIFICATION forming part of Letters Patent No. 281,975, dated July 24, 1883.

Application filed March 15, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. CLEVELAND, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Car-Starters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain novel and useful improvements in that class of devices known as "car-starters;" and it has for its object to provide such a device as shall be simple and economic in its construction, while at the same time its action shall be certain and positive; and with these ends in view my invention consists in certain details of construction and combination of elements, hereinafter fully and in detail explained, and specifically designated by the claims.

In order that those skilled in the art to which my invention appertains may more fully understand the construction and operation of the same, I will proceed to describe it in detail, referring by letters to the accompanying drawing, forming part of this specification, in which is shown a side elevation of my device attached to a car-axle, and with the side of the swinging bar broken away.

A is the beam, which I preferably cast in two pieces and secure around the axle by bolts in such manner as to permit a free rotation of the axle within the same.

B is a ratchet-wheel cast integral with the axle, and inclosed by the beam at its lower extremity.

C is a bolt, arranged within the beam so as to have a vertical sliding movement, and with its inner end adapted to engage with the ratchet-wheel. This bolt is connected in any ordinary way with a spring, D, which acts to throw said bolt out of engagement with the ratchet-wheel, as will be presently explained. The relation between the spring and bolt is such that the latter will project above the upper surface of the beam, as shown, when the former is in its normal condition.

Attached to the beam at its inner end is a strap, E, preferably of leather, and carried

along the upper plane of said beam, and over and upon the projecting bolt C, and thence underneath the platform of the car, and detachably connected in any well-known way with the whiffletree or draw-bar.

F is an ordinary spring, secured at one end to the beam and at the other to a projection from the bottom of the car or to the car itself, and serves to return the beam to its normal position after the car has been started.

The operation of my improved starter is as follows: The position of the several parts when the car is at rest is the same as shown in the drawing. When power is applied to the whiffletree to start the car, the strap E is thrown into connection with said tree by means of any of the well-known devices operated at the floor of the platform by the foot of the driver. As the strain on the strap continues, the tendency of the latter is to adapt itself to the shape or contour of the upper surface of the beam. This causes the bolt to be forced down into engagement with the ratchet-wheel, the pivotal action of the beam around the axle is thereby destroyed, and as the beam is pulled forward the axle will be forced around, thereby starting the car. The beam will continue its action on the axle until the former has attained a perpendicular position, when enough impetus will have been given to the car to overcome the inertia of the same. The strap is then disconnected from the tree by means of the device above referred to, and the springs D and F return the bolt C and beam A, respectively, to their normal positions.

It will be readily understood that the engagement of the bolt with the ratchet-wheel establishes a rigid connection between the beam and axle, and the greater the length of said beam the greater will be the leverage, and a correspondingly less force will be required to revolve the axle.

The bolt may be constructed so as to be below the upper surface of the beam when in its normal position, and be operated by a projection from the strap, or the bolt and strap may be made in one piece, without departing from the spirit of my invention.

I am aware that various devices for starting cars have been constructed in which the pawl

and ratchet form a prominent feature, and I do not wish to be understood as laying claim to any such construction; but

What I do claim as new, and desire to secure  
5 by Letters Patent, is—

1. In a car-starter, the beam pivotally attached to the axle, and having interiorly arranged therein a spring-bolt projecting above the upper surface of said beam, and adapted  
10 to be thrown into engagement with a ratchet-wheel on the axle by a strap or other similar device secured to the beam and passed over and upon said bolt, substantially as set forth.

2. The beam A, pivotally attached to the axle, and having spring F and spring-bolt C, 15 in combination with the ratchet-wheel B and strap E, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM B. CLEVELAND.

Witnesses:

CHARLES F. CHEW,  
W. T. HAVILAND.