(No Model.)

H. C. E. STILHOFF.

CAR STARTER.

No. 261,492. Patented July 18, 1882.

Fig. 1.

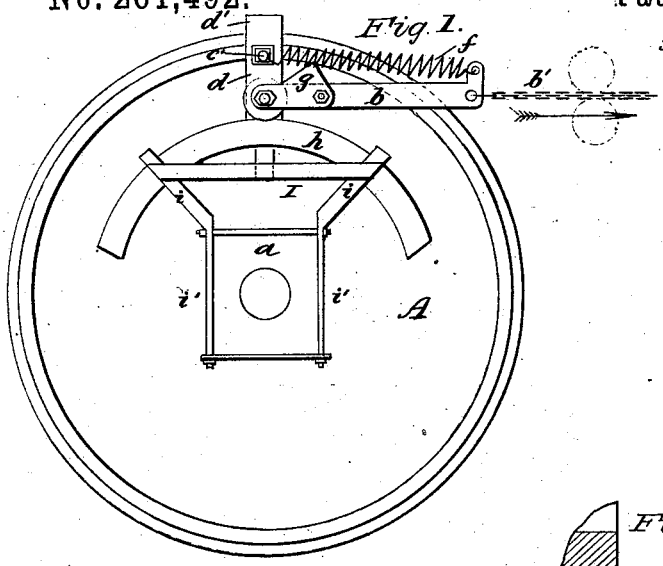


Fig. 3.

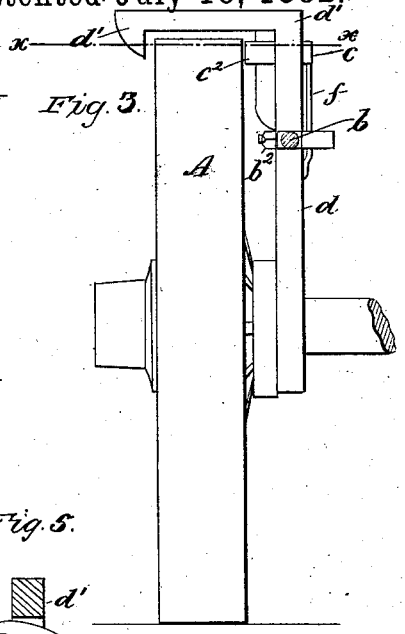


Fig. 5.

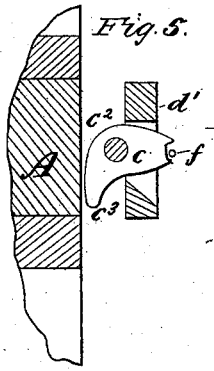


Fig. 4.

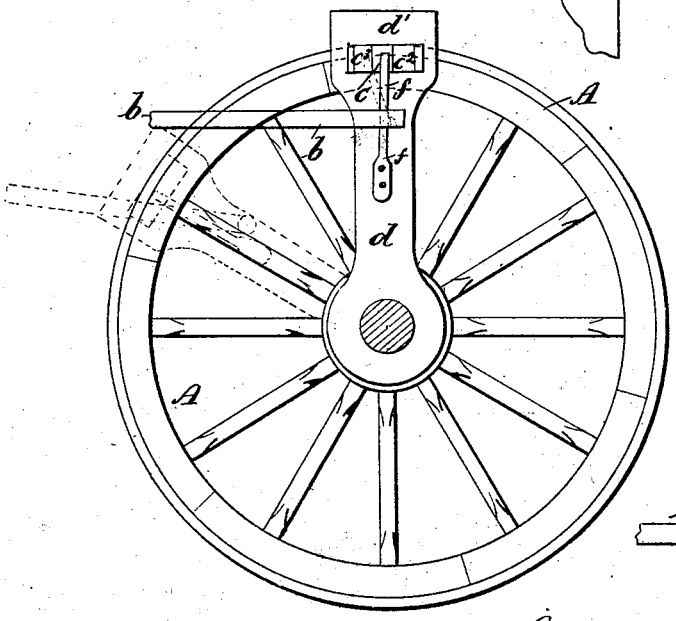


Fig. 2.

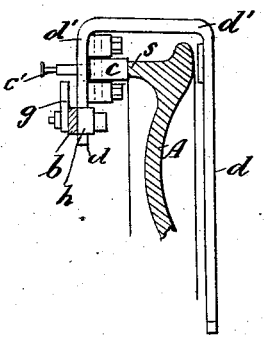
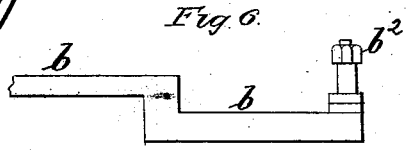


Fig. 6.



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UNITED STATES PATENT OFFICE.

HANS C. E. STILHOFF, OF COPENHAGEN, DENMARK, ASSIGNOR OF ONE-HALF TO CHRISTIAN SORENSEN, OF SAME PLACE.

CAR-STARTER.

SPECIFICATION forming part of Letters Patent No. 261,492, dated July 18, 1882.

Application filed June 5, 1882. (No model.) Patented in Denmark January 24, 1882.

To all whom it may concern:

Be it known that I, HANS CHRISTIAN EMIL STILHOFF, a subject of His Majesty the King of Denmark, residing at the city of Copenhagen, in the Kingdom of Denmark, have invented certain new and useful Improvements in Car-Starters; and I do 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, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side view of my improved car-starter as applied to a car-wheel. Fig. 2 is a transverse section of the same, with so much of the wheel as is necessary to illustrate the operation of the device. Fig. 3 is an end or edge view of the device in its modified form for its application to a vehicle-wheel. Fig. 4 is a side view of the same. Fig. 5 is a sectional detail view, through line *x x* in Fig. 3, of the clutch or lock-pawl which interlocks with the rim or face of the wheel; and Fig. 6 is a detail top view of the draft beam or bar which is attached to and operates my device.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of car-starters in which the power of the team is temporarily applied to give direct impulse upon the wheel, so as to start the latter rolling, and then transfer the draft direct to the front axle, as usual; and it consists in the improved construction of the same, as hereinafter more fully described, and particularly pointed out in the claim.

I shall first describe the construction of my device as applied to a car-wheel, and afterward its construction as applied to a vehicle-wheel or spoke-wheel, the construction and combination of the co-operating elements being substantially the same in both cases, and only modified to admit of their application to wheels of different character.

Referring to Figs. 1 and 2 in the drawings, the letter A represents a cast-iron car-wheel of any approved construction.

i and *i* are two slotted arms, the parallel lower parts, *i'* and *i'*, of which are bolted together on opposite sides of the axle-box *a*, while their diverging upper slotted parts, which are connected by a brace-bar, I, form bearings for a curved bar, *h*, the curvature of which is concentric with the wheel.

From the middle of bar *h* projects a bar, *d*, the upper part of which is bent to form a yoke, *d'*, which spans or straddles the wheel, as shown in Fig. 2 of the drawings. At the point where arm *d* is connected to the arch *h* is hinged the draft-beam or draft-bar *b*, to the outer free end of which is attached the rope or chain *b'*, which connects it with the draft or other motive power.

One of the pendants or arms *d* of the yoke *d'* is slotted to receive the clutch or lock-pawl *c*, the inner end of which engages the serrated rim or flange *s* of the wheel.

A stout spring, *f*, connects the shank *c'* of the lock-pawl *c* with the free end of the draft-bar *b*, the lock-pawl *c* being pivoted within its slot or box in the yoke *d d'*, so as to permit its inner end to engage the rim *s* of the wheel A, as aforesaid, when it (the pawl) is actuated by its spring *f*.

This will be the relative position of the parts as indicated in Figs. 1 and 2 of the drawings. When the draft is applied to chain *b'* it operates to tilt the yoke *d'* in the direction of the line of draft, thereby imparting, through the clutch or lock-pawl *c c'*, a direct impulse upon the rim of the wheel, which is kept up until the arm *d* has been tilted enough to strike the arm or box *i* of the arch *h* which is nearest to the line of draft. When the parts *h*, *d*, and *d'* are in this position a triangular release-block, *g*, which is affixed upon the draft-bar *b*, will strike the projecting shank *c'* of the clutch or lock-pawl *c*, and thus disengage it from the rim *s* of the wheel, in which disengaged or released position it will remain during the application of the draft. When the car stops yoke *d'* may be brought back into its normal vertical position by means of a lever attached to it, or by any other suitable means.

In the application of my device to a wagon or spoke wheel the pivoted clutch is of the construction shown in Fig. 5 of the drawings, from which it will be seen that it is in the nature of an eccentric pivoted in the upper

slotted part of the yoke d', the shoulder c^2 of which, actuated by the spring f, (which in this case is in the nature of a leaf-spring or bar-spring secured upon the side of arm d of the yoke d',) bears against the rim of the wheel. In tilting arm d by its pivoted draft-bar b the clutch or eccentric c is released from binding against the rim of the wheel by the lip c^3 striking the nut b^2, by which the bent inner end of the draft-bar is bolted to the arm or upright d, the arch h being in this case dispensed with, and arm d being pivoted either upon the hub or the axle of the wheel.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

In a car-starter of the described class, the combination, with one or more of the wheels of the car or vehicle, of the arm d, arranged to move in the arc of a circle having the axle for its center, and having the yoke d', provided with a pivoted clutch or catch-pawl, c, actuated by a spring, f, to engage the contiguous rim or face of the wheel, and draft-bar b, pivoted to the arm d, and provided with a block or stud, g, adapted to release or disengage the pawl from the wheel, substantially in the manner and for the purpose herein shown and set forth.

In testimony whereof I have hereto affixed my signature in presence of two witnesses.

HANS CHRISTIAN EMIL STILHOFF.

Witnesses:
H. TOMMER,
CHRISTIAN SORENSEN.