

(No Model.)

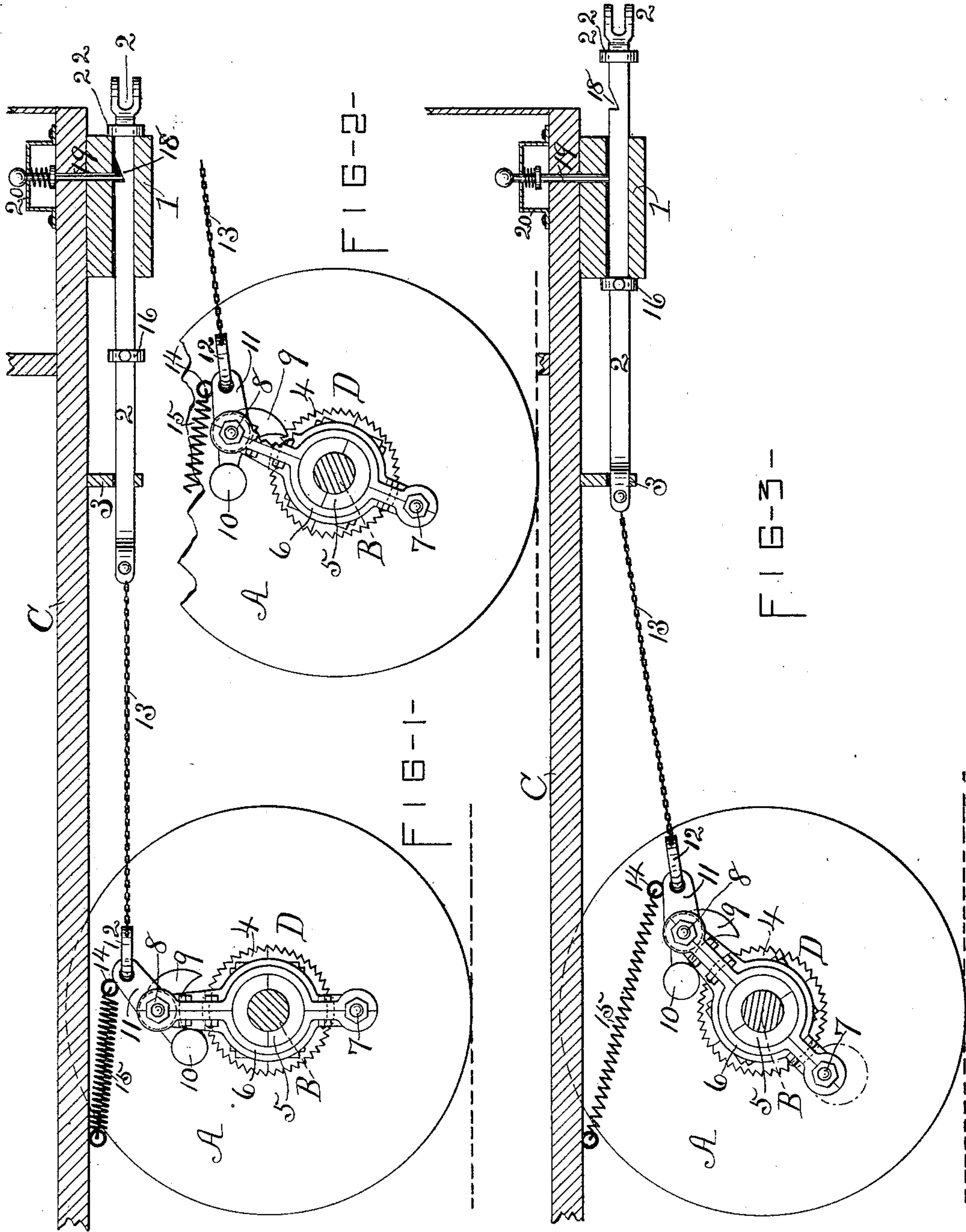
2 Sheets—Sheet 1.

D. JENNINGS.

CAR STARTER.

No. 350,138.

Patented Oct. 5, 1886.



ATTEST—
Morgan A. Dunn
George S. Mahle

INVENTOR—
David Jennings
per, O. C. Raymond
his atty.

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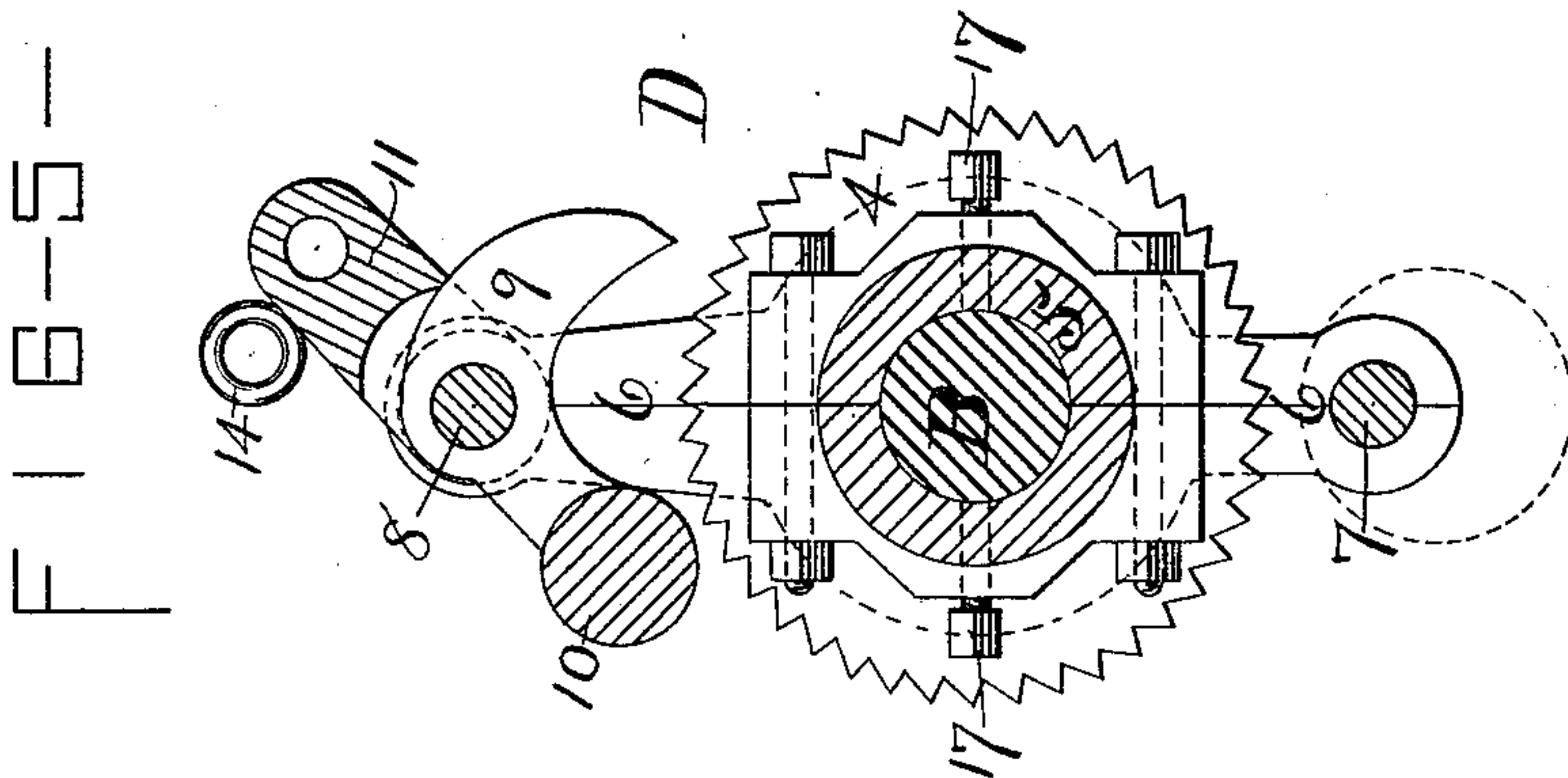
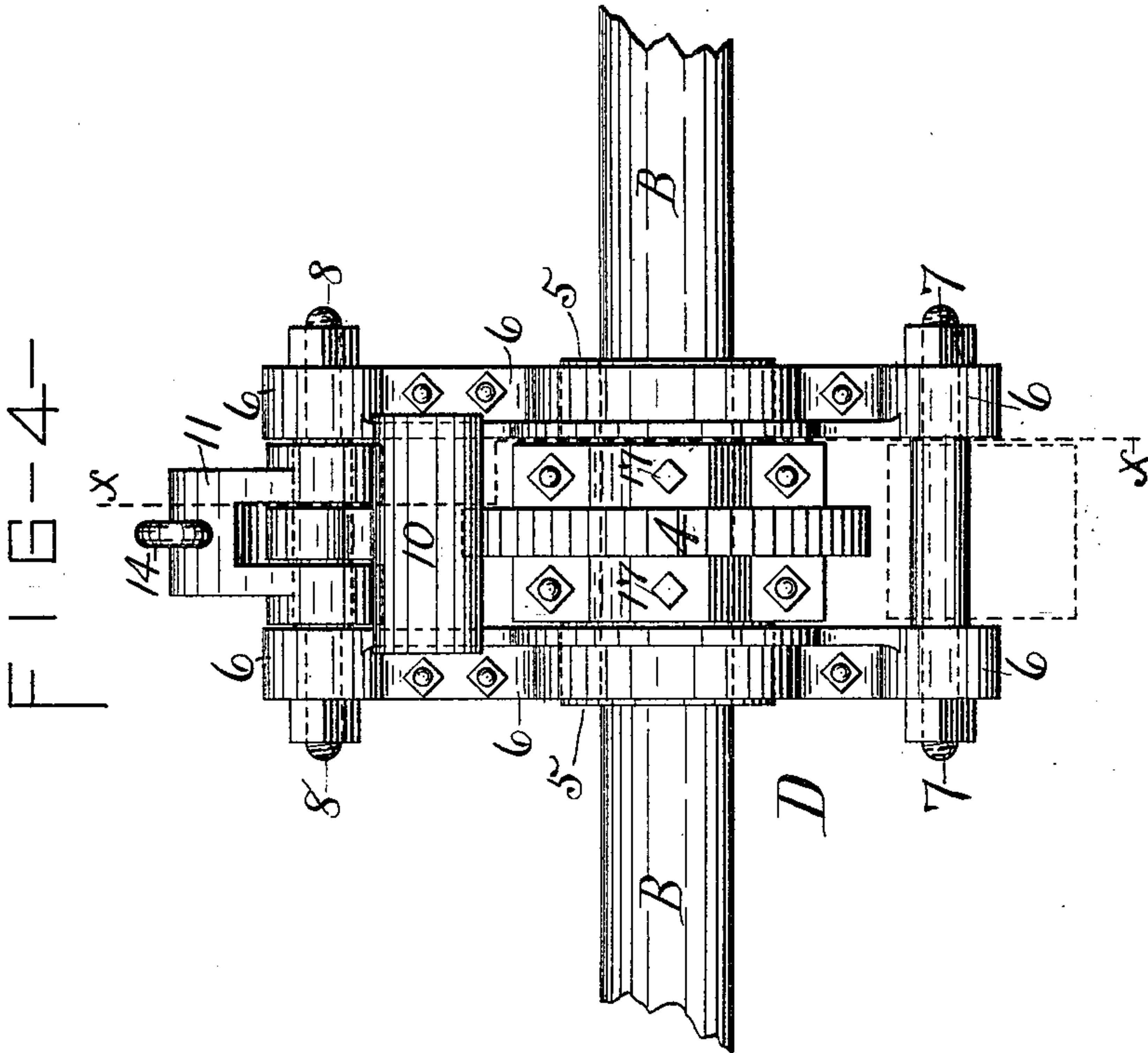
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George J. Halse

INVENTOR—

David Jennings
per, Row C. Raymond
his Atty.

UNITED STATES PATENT OFFICE.

DAVID JENNINGS, OF LYONS, NEW YORK.

CAR-STARTER.

SPECIFICATION forming part of Letters Patent No. 350,138, dated October 5, 1886.

Application filed July 17, 1886. Serial No. 203,232. (No model.)

To all whom it may concern:

Be it known that I, DAVID JENNINGS, of Lyons, county of Wayne, in the State of New York, a citizen of the United States, have invented certain new and useful Improvements in Car-Starters, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation with one wheel removed, showing parts in their normal position; Fig. 2, a like view showing pawl engaged with the ratchet-wheel; Fig. 3, a like view showing pawl disengaged and parts in position assumed after car is started; Fig. 4, a rear elevation of starting mechanism; and Fig. 5, a vertical transverse section taken on line *x x*, Fig. 4.

Similar letters and figures of reference indicate corresponding parts throughout the several views.

My invention relates to that class of car-starters using a pawl-and-ratchet-wheel device secured upon the axle and connected to the draw-bar as a means of imparting the starting movement to the car.

My object is to improve the construction, durability, operation, and efficiency.

It consists of the several novel features of construction and operation hereinafter described, and which are specifically enumerated in the claims hereto annexed.

It is constructed as follows:

A is the car-wheel, mounted upon the axle B in any ordinary manner.

C is the bottom of the car, upon the under side of which I secure the bumper 1, provided with a longitudinal hole to receive the draw-bar 2, and the perforated lug or stud 3, also receiving the draw-bar, as shown.

D is the starting mechanism upon the axle B, consisting of the ratchet-wheel 4, provided with a hub, 5, upon each side of the body of the wheel, the whole being bored out to fit upon the axle, a frame, 6, fitting loosely upon the hubs on each side of the ratchet and provided with a bolt, 7, to hold the frame parts together at their lower end, and a like bolt, 8, at its upper end, and a balanced pawl, 9, mounted upon the bolt 8, consisting of the pawl proper and counter-balance 10, integral with each other.

11 is a yoke mounted loosely upon the bolt

8, perforated in its head to receive the link 12, which is connected to the draw-bar 2 by the chain (or rod) 13. This yoke is also provided with an eye, 14, to which I secure one end of the spring 15, the other end being connected to the bottom of the car. This spring can also be placed around the draw-bar 2 between the bumper 1 and the adjustable collar 16 upon the draw-bar. The yoke 11, when drawn forward, lies and bears upon the pawl, and when drawn back is not entirely free from it.

In the drawings I show the ratchet 4 and its hubs, and also the frame parts as bisecting, and these halves as secured together by bolts. This construction enables me to mount the whole device upon an axle without removing a wheel. The ratchet-wheel is fastened in position upon the axle by set-screws 17.

The draw-bar 2 is recessed or notched, as at 18, the notch receiving the lower end of the stop-pin 19, which is mounted in the bracket 20, secured upon the platform of the car and provided with a spring and a head, so that the pin can be raised out of the notch when desired, or when the draw-bar is to be released to operate the starter. When the pin is in positive engagement with the notch, the car is drawn without the aid of the starter mechanism.

It is operated as follows: I raise the pin 19 out of the notch 18 and start the horses. The strain then draws the draw-bar 2 longitudinally through the bumper, and pulls the frame 6 over toward that end of the car until the pawl engages with the ratchet-wheel, as shown in Fig. 2. Then, as the movement forward of the draw-bar continues, the pawl throws the ratchet-wheel over farther forward, revolving the axle and wheels A, and thus starting the car itself forward. Then, as the draw-bar is pulled out farther, the pawl, operating somewhat eccentrically with the line of draft, is raised out of engagement with the ratchet-wheel, and the collar 16 comes up against the inner end of the bumper, and then this collar takes all of the strain off from the starting mechanism and renders the draw-bar 2 into a rigid draw-bar; also, when the pin 19 is engaged with the notch 18 the draw-bar is a rigid one. Then, when the strain is removed or the car is stopped, the spring 15 throws all of the operating parts back into normal position, as shown in Fig. 1. This

return of parts is assisted also by the counterbalancing-weight of the lower end of the frame 6, and to increase this assistance, and, in fact, to cause these parts to return without using
5 any spring 15, I add a weight to the bolt 7, as shown in dotted lines in Figs. 3, 4, and 5.

The counter-balance 10 of the pawl is of T form with reference to the pawl itself, and its projecting ends rest against the frame parts
10 and above the ratchet-teeth when the pawl is disengaged. The draw-bar 2 is also provided with a collar, 22, which regulates the backward throw of the draw-bar.

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

1. In a car-starter, the combination of a counterbalanced pawl, a yoke, 11, fitted upon the pawl-axle and resting against the pawl and provided with a return-spring, 15, a bi-
20 partite ratchet provided with side hubs and secured together upon the car-axle, and a bi-

partite main frame secured upon the ratchet-hubs and provided with set-screws 17 and with the draw-bar 2, connected to the yoke 11, and mounted substantially as shown and described. 25

2. A car-starter consisting of an axle, a hubbed ratchet secured thereon, a frame mounted upon the ratchet, a counterbalanced pawl mounted in the frame, and a draw-bar
30 connected to the pawl-yoke and mounted upon the car-bottom and provided with collars 16 and 22 and notch 18, and a car-platform provided with a bumper and a stop-pin, 19, in combination, substantially as shown and de-
scribed. 35

In witness whereof I have hereunto set my hand this 7th day of July, 1886.

DAVID JENNINGS.

In presence of—

F. W. BARKER,
HIRAM MARSHALL.