

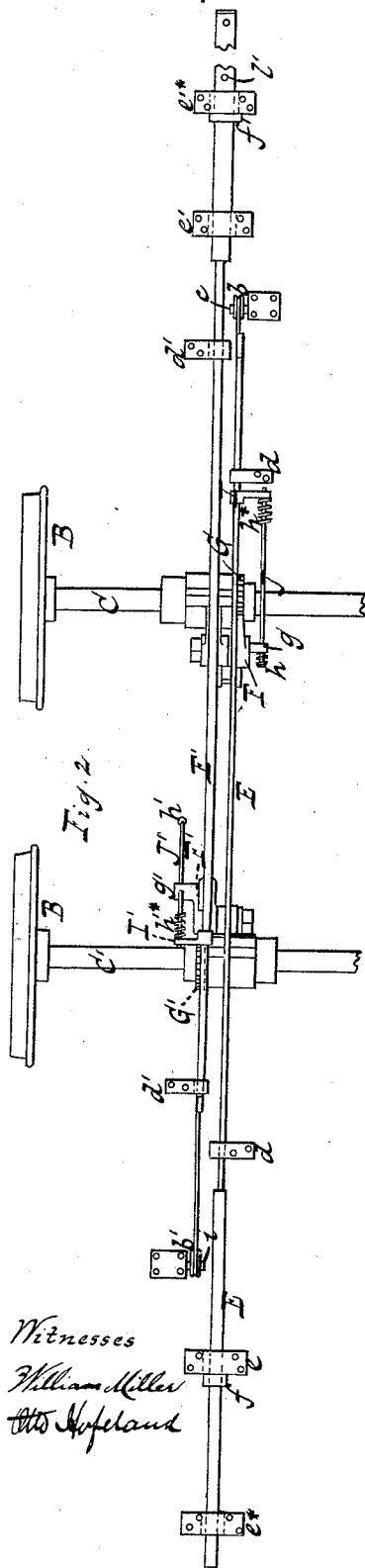
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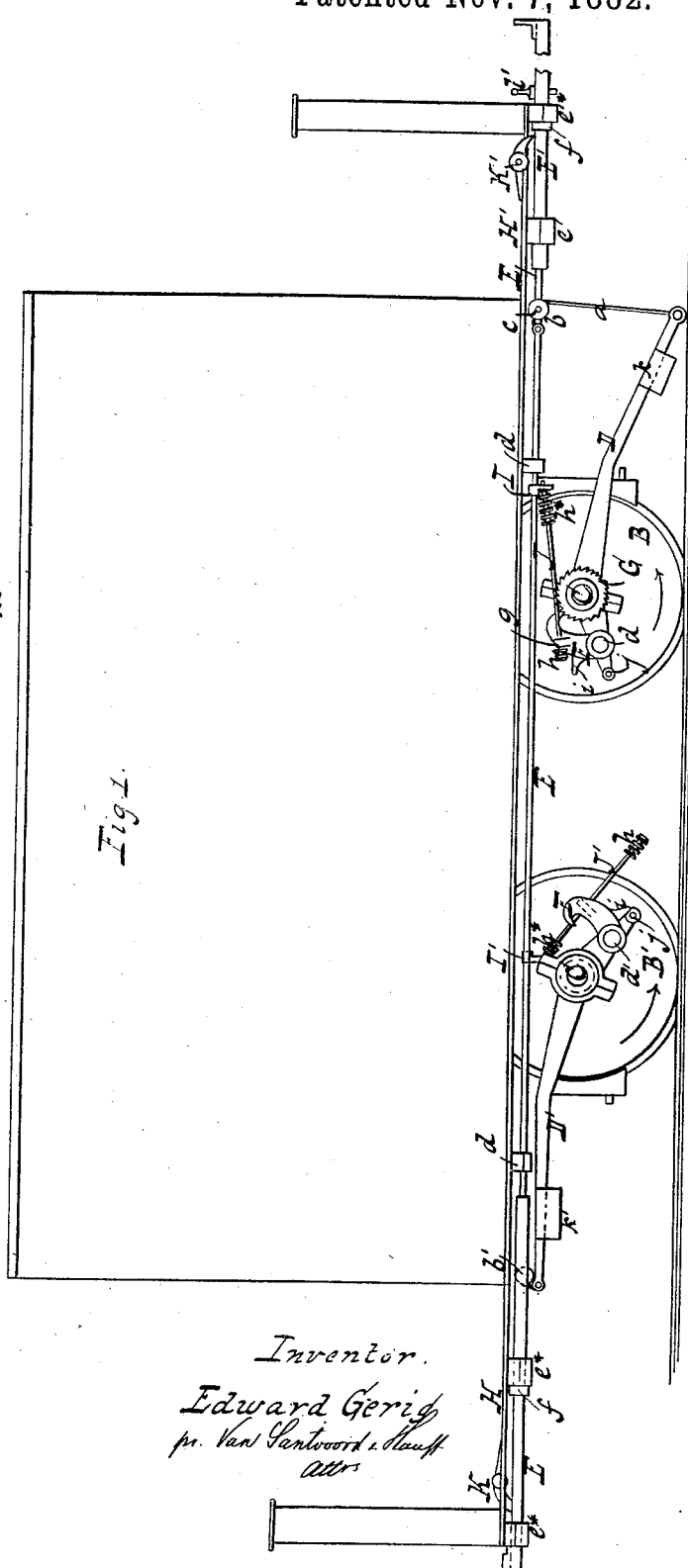
E. GERIG.  
CAR STARTER.

No. 267,185.

Patented Nov. 7, 1882.



Witnesses  
William Miller  
Otto Hopland



Inventor.  
Edward Gerig  
per Van Bentwood & Hauff  
attys

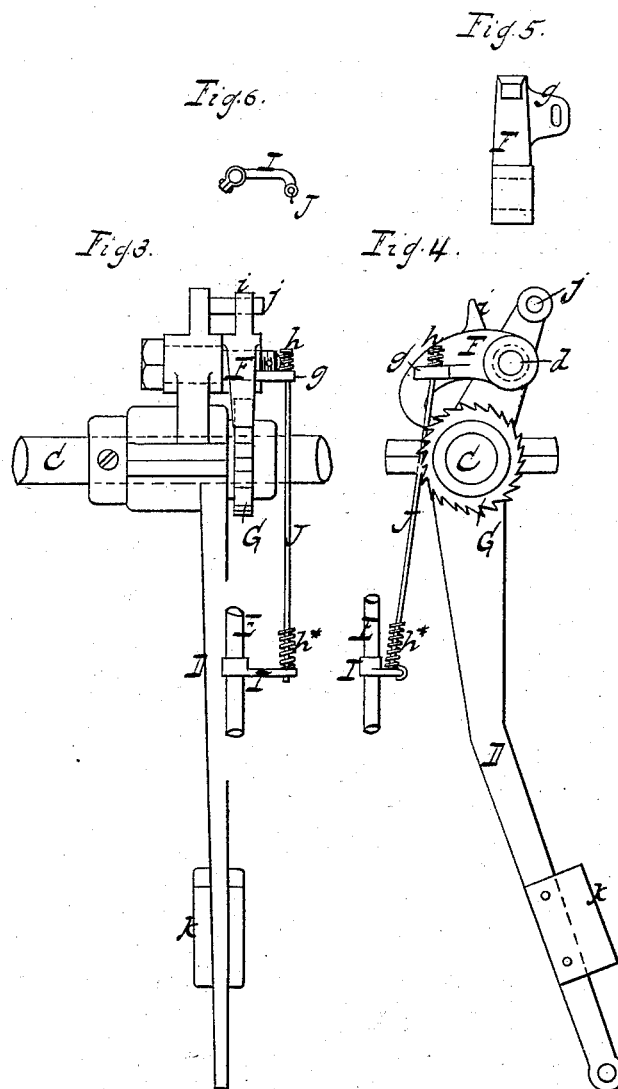
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WITNESSES:

*William Miller*  
*Wm. S. S. S. S.*

INVENTOR

*Edward Gerig*

BY *Van Bentwood & Shuff*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

EDUARD GERIG, OF BERLIN, GERMANY.

## CAR-STARTER.

SPECIFICATION forming part of Letters Patent No. 267,185, dated November 7, 1882.

Application filed September 20, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDUARD GERIG, a citizen of the Kingdom of Prussia, in the Empire of Germany, residing at Berlin, in the Kingdom of Prussia, in the Empire of Germany, have invented a new and useful Improvement in Car-Starters, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to a car-starter, the action of which depends upon a lever-pawl which is actuated by the draft-bar, and which acts upon a ratchet-wheel mounted on the car-axle. The peculiar construction of my apparatus, which forms the subject-matter of this present invention, is pointed out in the following specification.

This invention is illustrated in the accompanying drawings, in which Figure 1 represents a side elevation of my car-starting mechanism. Fig. 2 is an inverted plan of the same. Fig. 3 is a front view of one of the lever-pawls and the ratchet-wheel on which said lever-pawl acts, on a larger scale than the previous figures. Fig. 4 is a side elevation of the same. Figs. 5 and 6 are details, which will be referred to as the description progresses.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates a horse-car of any well-known construction. It is supported by two pairs of wheels, B B', which are mounted on axles C C', respectively. On the axle C is loosely mounted a double-armed lever, D, the long arm of which connects by a rope or chain, a, with the draft-bar E, while the short arm of said lever carries a pawl, F. The rope or chain a passes over a pulley, b, which turns loosely on a stud, c, projecting from a bracket that is firmly secured to the bottom of the car, Fig. 2. The pawl F swings on a pin, d, secured in or projecting from the short arm of the lever D, and it (the pawl) can be thrown in gear with a ratchet-wheel, G, which is firmly mounted on the car-axle C. The draft-bar E slides in brackets d d', secured to the bottom of the car, and in brackets e e\*, secured to the under surface of the platform H, and between the last-named brackets is a collar, f, firmly secured to the draft-bar, so that by said collar the motion of the draft-bar is confined within certain limits.

On the draft-bar is firmly secured an arm, I, a detached view of which is shown in Fig. 5. In this arm is firmly secured a rod, J, Figs. 3 and 4, which extends loosely through a lug, g, projecting from the pawl F. On this rod are secured two springs or tappets, h h\*, one close to the arm I and the other near its outer end. From the back of the pawl F extends a nose, i, and from the short arm of the lever D projects a pin, j. On the long arm of said lever is secured a weight, k. When the lever is permitted to follow the action of the weight k the draft-bar is drawn in until the collar f strikes the bracket e, and if the team is hitched to the draft-bar and driven forward the draft-bar moves out, the lever D is raised, and the wheels B are turned in the direction of the arrow (marked thereon in Fig. 1) before the collar f on the draft-bar strikes the bracket e\*, and consequently the car is started from its state of rest by the action of the lever-pawl, and with comparatively little exertion on the part of the team. As the draft-bar is being drawn out the rod J slides through the lug g of the pawl F, and finally the spring h\* strikes said lug, and the pawl F is thrown back out of gear with the ratchet-wheel G just before the collar f strikes the bracket e\*. When the pawl is thrown back its nose i strikes the pin j, and the pawl is retained in the proper position to be thrown in gear whenever the lever D is permitted to follow the action of its weight k. At the moment the collar f strikes the bracket e\* it is caught by the pawl K, as shown in the right-hand end of Fig. 1, and in order to allow the lever D to follow the action of its weight the tail of the pawl K has to be depressed so that its point releases the collar f.

On horse-cars where the team is to be changed from one end to the other the mechanism hereinbefore described is duplicated, as shown in Fig. 1, so that by the draft-bar E and lever-pawl D the car can be started in one and by the draft-bar E' and lever-pawl D' it can be started in the opposite direction. The pawls K K' may be so arranged that they engage laterally with the collars, and they may be connected to the brake-spindle on either end of the car, so that whenever the driver brakes up the corresponding pawl K or K' is released, and the corresponding lever-

pawl D or D' is permitted to drop and to assume its working position.

In order to prevent the draft-bar at one end of the car from sliding back accidentally while the team is hitched to the draft-bar at the opposite end, said draft-bar may be locked by a pin, *V*, Fig. 1, which is used in addition to the pawl K'.

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

1. The combination, substantially as hereinbefore described, of the sliding draft-bar, the double-armed lever hung on the axle which carries a ratchet-wheel, said lever having a short arm in rear and a long arm in front of the axle, a pawl pivoted to the rear arm of said lever, the horizontal rod connected with the draft-bar, and means connecting the pawl with the said rod for throwing the pawl into and out of gear with the ratchet-wheel on the axle, as set forth.

2. The combination, substantially as hereinbefore described, of the draft-bar E, sliding

in brackets *e e\**, the lever-pawl D, having its long arm connected to the draft-bar, and carrying on its short arm the pawl F, the ratchet-wheel G, mounted on the car-axle, the rod J, secured in an arm, I, fastened to the draft-bar, and passing through a lug, *g*, projecting from the pawl, and the tappets *h h\** on said rod J.

3. The combination, substantially as hereinbefore described, of the draft-bar E, sliding in brackets *e e\**, the collar *f* on said draft-bar, the weighted lever-pawl D, having its long arm connected to the draft-bar, and carrying on its short arm the pawl F, the ratchet-wheel G, mounted on the car-axle, and the pawl K.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDUARD GERIG.

Witnesses:

E. SCHULTZ,  
B. ROE.