H. SCHREINER.

Car-Starter.

No. 208,040. Patented Sept. 17, 1878.

FIG. 1

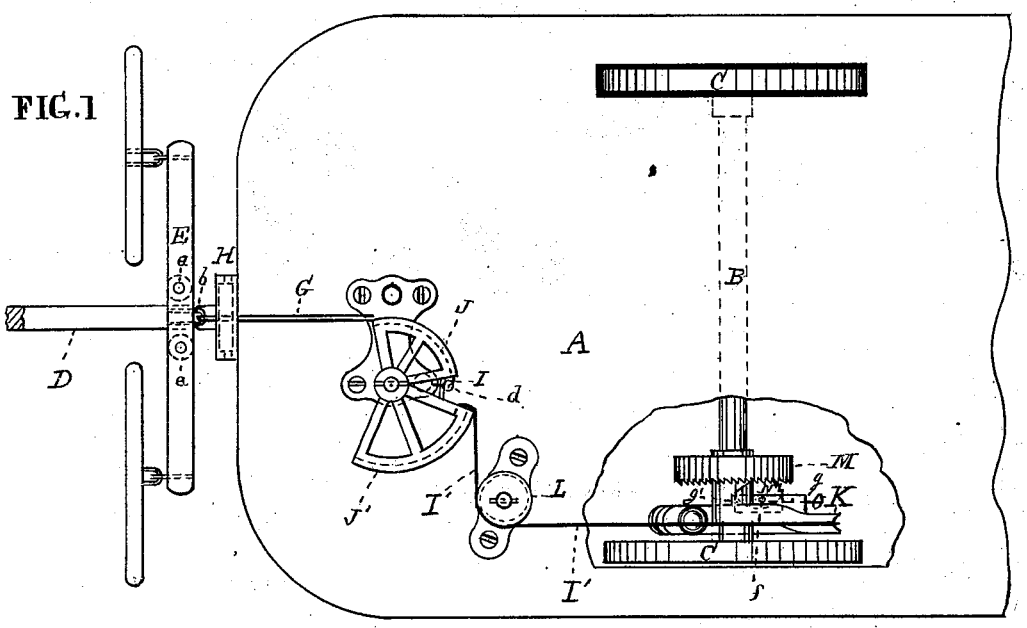



FIG. 2

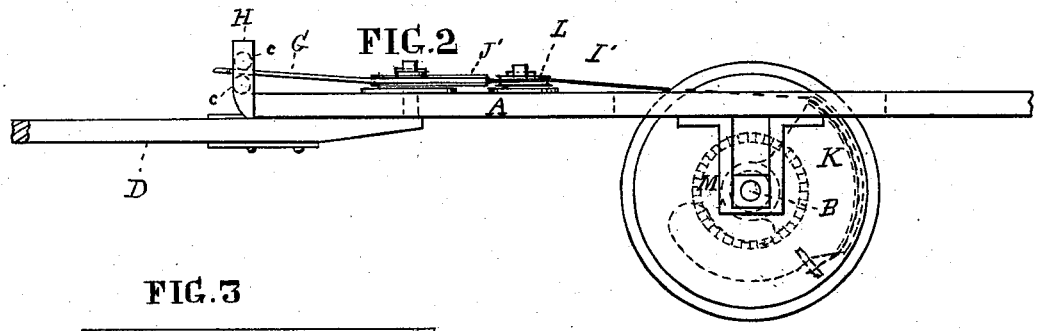



FIG. 3

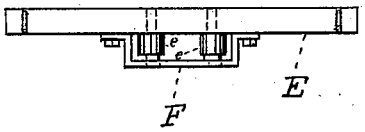



FIG. 4

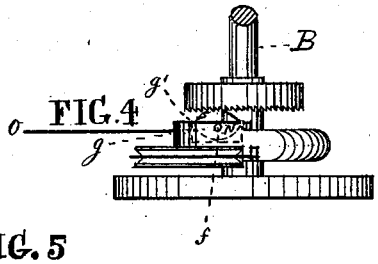
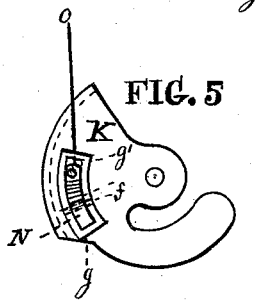



FIG. 5




Witnesses.

Thomas J. Bewley

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# UNITED STATES PATENT OFFICE.

HENRY SCHREINER, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN CAR-STARTERS.

Specification forming part of Letters Patent No. **208,040**, dated September 17, 1878; application filed August 2, 1878.

*To all whom it may concern:*

Be it known that I, HENRY SCHREINER, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Car-Starters, of which the following is a specification:

My invention relates to the following particulars: The double-tree has a yoke on its under side, which is provided with two friction-rollers for the connection of the tongue of the car, the bottom plate of the yoke holding the double-tree in connection with the tongue to prevent its rising or falling off sidewise from the latter, as fully described hereinafter. The double-tree has a staple at its rear side, with which the front end of the draft-bar is connected, the rear end of the bar being connected with the front end of the draft-chain, the rear end of the chain being connected to one part of a double sector. Another chain is connected at its front end to the other sector, and at its rear end to a weighted quadrant on one of the axles. The quadrant is brought into connection with a face ratchet-wheel, which is fast on the axle, by means of a segmental clutch, which falls into gear with the ratchet when the traces are slackened, by a counterbalance-weight drawing the quadrant into position. By the forward movement of the horses, by means of this device, the car is started without the usual strain upon them. The device also holds the car and prevents its running back when stopped on an ascending grade without subjecting the horses to any strain in starting. When the car is required to be run backward, the conductor disconnects the clutch by pulling a cord connected to it.

In the accompanying drawings, Figure 1 is a plan view of the front end of a car-bottom having my improvements attached. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of the double-tree E. Fig. 4 is an end portion of the axle B, having a traction-wheel, C, the ratchet-wheel M, weighted quadrant K, and segmental clutch N in connection, the quadrant being in an opposite position to that assumed in Figs. 1 and 2. Fig. 5 is a face view of the quadrant K with the segmental clutch N in connection therewith.

Like letters of reference in all the figures indicate the same parts.

A represents the front end of the bottom of a car. B is the front axle, with which my starting device is connected, as shown in the drawings; but in practice I connect it with the rear axle. C C are the traction-wheels. D is the tongue, connected in the usual manner with the car. E is the double-tree, which, by means of the yoke F, is held in connection with the tongue. It has friction-rollers *a a* at the side of the tongue, so as to have a free forward-and-backward movement thereon. The yoke prevents the double-tree rising or falling off sidewise from the tongue.

The double-tree has a staple, *b*, which projects from its rear side, with which is connected the front end of the starting-bar G. (Seen more clearly in Fig. 1.) The front end of the bar is held between the friction-rollers *c c*, which are supported by the frame H, which is fastened to the front end of the car-bottom A. To the rear end of the bar is connected the front end of the draft-chain I, the other end of the chain being connected to the part J of the double sector by means of the eyebolt *d* of the casting. The chain I′ connects the other part, J′, of the double sector with the weighted quadrant K, which has a loose fit on one end of the axle B, there being a guide-pulley, L, intermediate between the sector and the quadrant.

M is a ratchet-wheel fast on the axle B. Its teeth are cut in the flat surface of its rim.

The quadrant K is provided with a projection, *g*, in which is a recess, *g′*, in which is inserted the segmental clutch N, which has teeth cut in its peripheral surface. The clutch is hung on the pin *f*, which is held by the cheeks of the recess *g′*, so as to admit of the clutch falling into gear with the ratchet-wheel M when a connection has to be made for starting the car.

O is a cord, one end of which is connected to the clutch N and the other end is hooked up in a convenient place for the conductor. When it becomes necessary, from any cause, for the car to be backed, the conductor pulls the cord, and thereby disengages the clutch from the ratchet-wheel. The connection of the clutch and cord with the quadrant K is clearly seen in Fig. 5.

I claim as my invention—

1. The yoke F and friction-rollers *a a*, in combination with the double-tree E and tongue D, substantially in the manner and for the purposes set forth.

2. The ratchet-wheel M, notched on the flat face of its rim, the quadrant K, having projection *g* thereon and recess *g'*, segmental clutch N, pivoted in said recess, and cord O, all combined and operating substantially as described.

HENRY SCHREINER.

Witnesses:
STEPHEN USTICK,
JOHN H. SCHREINER.