

(No Model.)

W. C. TRUSSELL.
CAR STARTER.

No. 306,120.

Patented Oct. 7, 1884.

FIG. 1

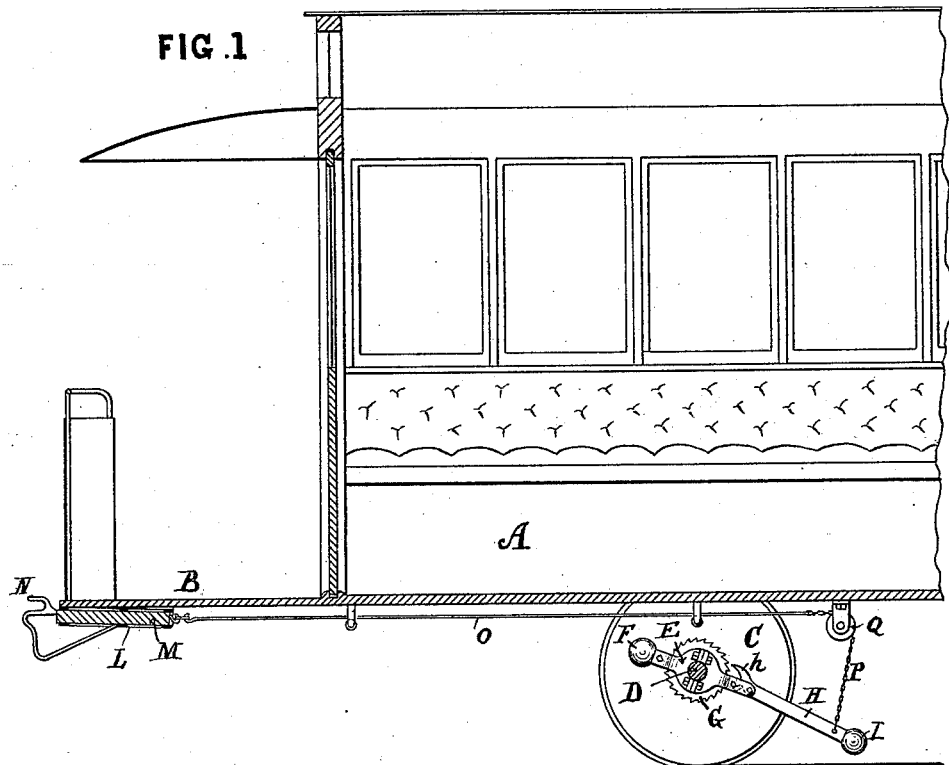


FIG. 3.

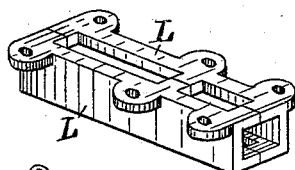


FIG.4.

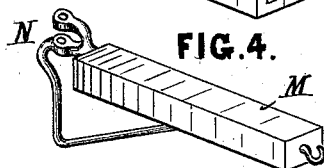


FIG. 2.

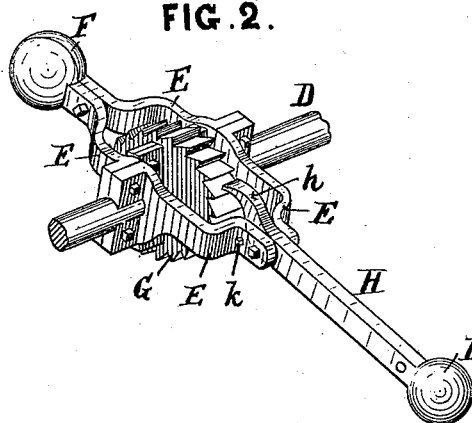


FIG. 5.

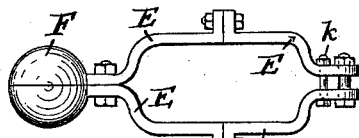


FIG. 6.

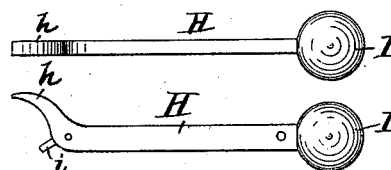
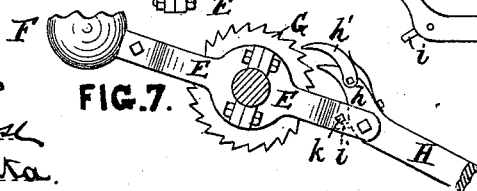


FIG.7.



Witnesses
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UNITED STATES PATENT OFFICE.

WILBURT C. TRUSSELL, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE
TRUSSELL CAR STARTER COMPANY, OF AUGUSTA, MAINE.

CAR-STARTER.

SPECIFICATION forming part of Letters Patent No. 306,120, dated October 7, 1884.

Application filed January 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILBURT C. TRUSSELL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Car-Starters, of which the following is a specification.

My invention relates to an improved means for relieving the horses of a street-car of the strain caused by a dead-pull in starting the car after a stoppage.

The invention consists in the employment of a frame, which is attached loosely to the axle, and having a weight at its outer end. At the opposite end of this frame is pivoted an arm or lever, also weighted at its outer end, the said lever being made to engage with a ratchet-wheel securely attached to the axle and arranged within the frame, and the parts being so connected that as the lever is released from the draft the weighted frame will cause the lever to become disengaged from the ratchet-wheel, and thus break the joint.

The invention further consists of a block having a clevis at its forward end, and allowed to slide in an inclined box or frame secured to the under side of the front part of the car. The connection for operating the weighted lever is attached to the rear of the sliding bar.

Referring to the accompanying drawings, Figure 1 represents a portion of a street-car with my improvement attached. Fig. 2 is an enlarged view in detail of the lever, the weighted frame, and ratchet-wheel. Figs. 3 and 4 represent the frame and its sliding draw-bar. Figs. 5 and 6 are detail views. Fig. 7 shows a modification.

A represents a portion of a street-car body.

B is the platform; C, one of the wheels, and D the axle to which the wheels are secured.

To the axle D is firmly secured the ratchet-wheel G, which is made in two parts, so as to enable it to be readily applied to an axle already in use.

E is a frame, made in four parts, as indicated in Figs. 2 and 5, the said parts being bolted together, as shown.

At one end of the frame E is a weight, F, made in two parts, and cast with the rear portions of the frame. The frame E is attached loosely to the shaft D, so as to admit of a free swinging movement on the same. To the op-

posite end of the frame E is pivoted a lever, H, having a weight, I, on the outer end. The inner end, *h*, of the lever H is curved, as shown in Figs. 2 and 6, and engages with the teeth of the ratchet-wheel G.

On the under side of the front part of the lever H is a pin or stop, *i*, and at the end of the portion of the frame to which the lever is pivoted is a bolt or bar, *k*, against which the pin (or it may be a shoulder) is caused to bear when the lever is released and joint broken, and thus retain the parts in proper relative position.

To the end of the lever H is attached the chain P, which passes over a pulley, Q, and connects with a rod, O, which is hooked to the rear end of a sliding block, M. This block consists of a thick metal bar, which is fitted to slide freely in a frame or box, L, secured to the under part of the car-platform, and is inclined somewhat from front to rear for the purpose of allowing the block M to slide more freely to the rear when the draft is released. The frame or box L is made in two parts and with a narrow opening in the bottom to admit of the free movement of the brace *n* in the same. The brace *n* is connected with the clevis N, and to the under side of the sliding block M.

In Fig. 7 I have shown a pawl, *h'*, pivoted to the end *h* of the lever H, for the purpose of taking up any lost motion of the lever H, if necessary.

The operation is as follows: The car is shown at a standstill in Fig. 1. When the draft is applied to the draw-bar, the lever H is drawn up by the connecting chain and rod, causing the end *h* of lever H to engage with the ratchet-wheel G, and thus turn the axle and wheels. When the lever H reaches its highest point, the end *h* will become disengaged from the ratchet-wheel. At the same time the weight F, on the outer end of the frame E, will over-balance the said frame, causing the latter to turn on the axle and break joint with the lever H, the latter again dropping to the position shown in Fig. 1 at the least slackening of the draft.

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

1. The weighted swinging frame E and weighted lever H, provided with means for breaking the joint, in combination with the

ratchet-wheel G and axle or shaft D, substantially as and for the purpose set forth.

2. In a car-starter, the sliding block M, provided with a clevis, N, and brace n, and connected with means for operating the weighted lever, in combination with the inclined frame or box L, attached to the front end of the car, substantially as and for the purpose set forth.

3. The combination of the sliding block M, frame L, the rod and chain O P, weighted le-

ver H, swinging weighted frame B, ratchet G, and axle or shaft D, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 15

WILBURT C. TRUSSELL.

Witnesses:

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E. PLANTA.