(No Model.)

J. H. MÜLLER.

CAR BRAKE AND STARTER.

No. 323,354. Patented July 28, 1885.

Fig. 1.

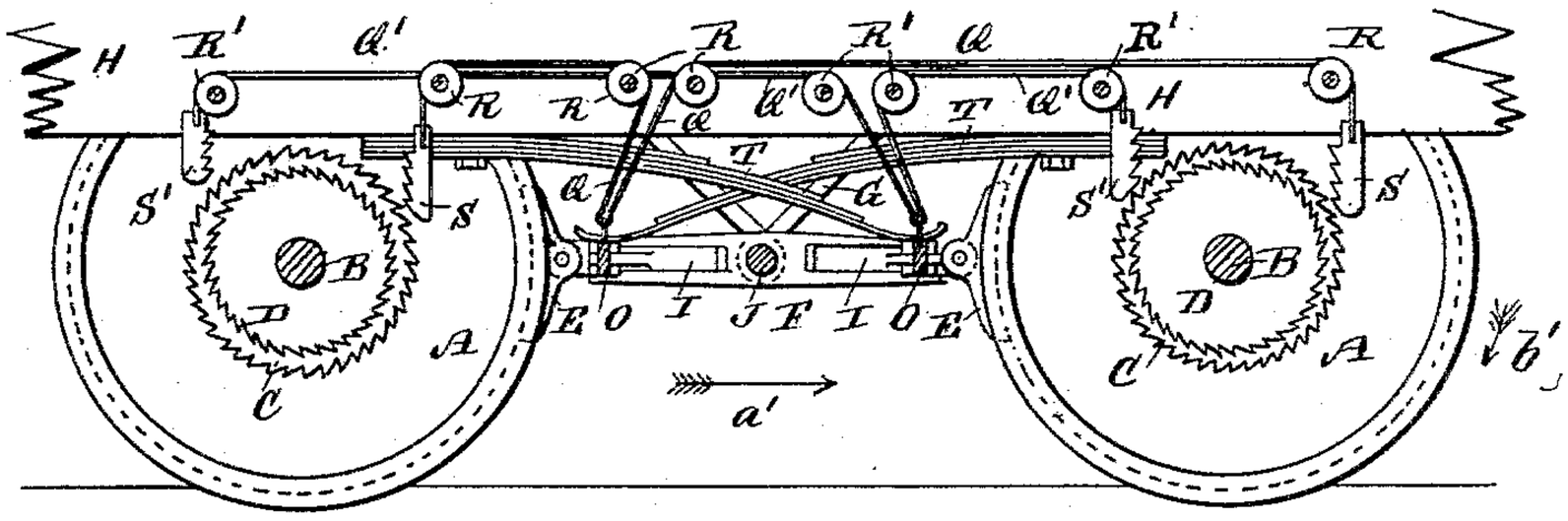


Fig. 2.

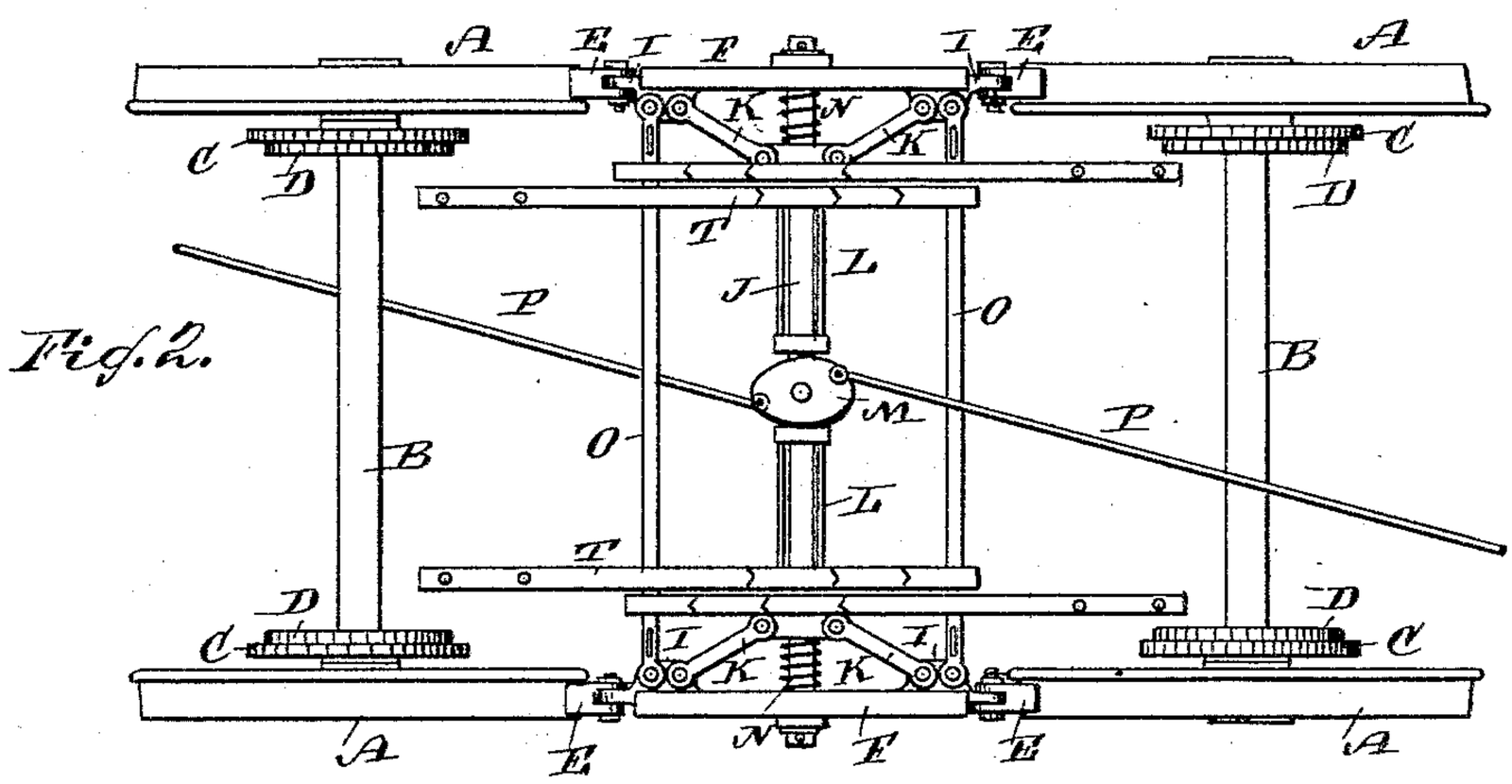
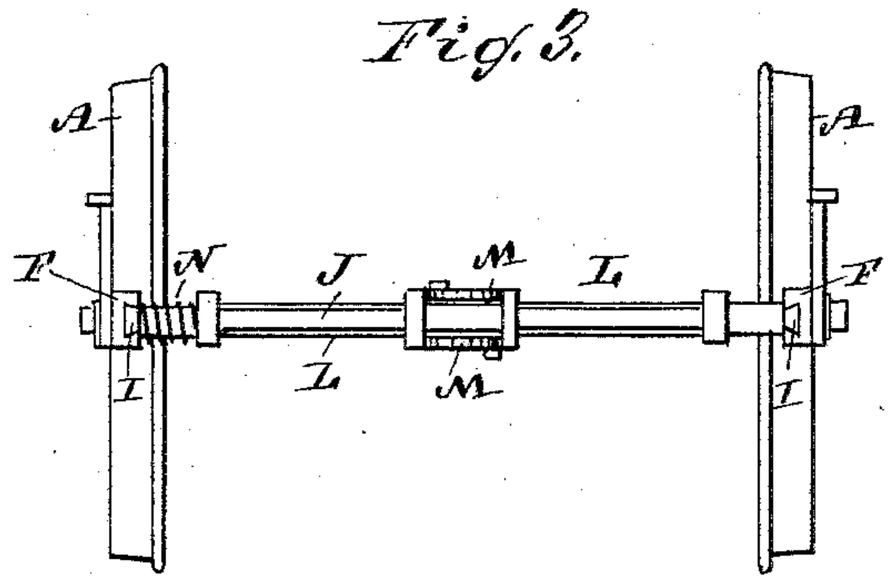


Fig. 3.



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CAR-BRAKE AND STARTER.

SPECIFICATION forming part of Letters Patent No. 323,354, dated July 28, 1885.

Application filed March 25, 1885. (No model.) Patented in Germany February 3, 1882, No. 19,305.

To all whom it may concern:

Be it known that I, JOHANN H. MÜLLER, of Gravesend, in the county of Kings and State of New York, have invented a new and Improved Car Brake and Starter, of which the following is a full, clear, and exact description.

This invention relates to certain new and useful improvements in that class of car brakes and starters in which springs are brought in tension by the brake-shoes, and the power in the springs is then utilized in starting the car.

The invention consists in the construction and combination of parts and details, as will be fully set forth and described hereinafter, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of a car-truck provided with my improved car brake and starter. Fig. 2 is a plan view of the same. Fig. 3 is an end view.

The wheels A are rigidly mounted on the axles B, and adjacent to the inner side of each wheel two ratchet-wheels, C and D, are rigidly mounted on each axle, the teeth of the two ratchet-wheels projecting in opposite directions. The wheels C have a greater diameter than the wheels D. The brake-shoes E are hinged to sliding pieces I at the ends of side bars, F, between the two wheels on each side, and which bars are pivoted at their middles on a shaft, J, held by hangers G, secured to and projecting downward from the side bars of the truck-frame H. The sliding pieces I are preferably made wedge-shaped and arranged in wedge-shaped grooves in the bars F. The slides I are connected by toggle-levers K with the ends of sliding sleeves L on the shaft J, and between the inner ends of the sleeves L connected elliptical or oval disks M are pivoted centrally on the shaft J, and are connected at opposite ends with the brake-rods P, which are operated by the usual brake-shafts or other devices. Spiral springs N surround the shaft J between the ends of the sleeves L and the bars F, and press the sleeves toward each other. The slides I on the opposite sides of the truck are connected by rods or bars O. To each end of each bar O two cords or chains, Q and Q′, are secured, the cord or chain Q passing over pulleys R on the truck-frame to one wheel A on one side, and the cord or chain Q′ passing over pulleys R′ on the truck-frame to the other wheel A on the same side. Ratchet-bars S are suspended from the ends of the cords or chains Q adjacent to the edges of the ratchet-wheels D, and ratchet-bars S′ are secured on the ends of the ropes or chains Q′ adjacent to the rims of the wheels C. Powerful springs T are secured to the side bars of the truck, and their free ends rest upon the ends of the bars O and press downward.

The operation is as follows: When the car runs in the direction of the arrow *a′*, and is to be stopped, the disks M are turned by means of each rod P and press the sleeves L toward the sides of the truck-frame, and by means of the toggle-levers K the shoes E are pressed against the wheels A, whereby the rear brake-shoes are pulled downward and the front shoes are pulled upward, and thereby the bars F are inclined, and the ends of the springs T resting on the front bar O are raised and the springs brought in tension, whereby the ratchet-bars S are lowered and in position to engage with the ratchet-wheels D. The car has been stopped by this time. Then the disks M are turned back in the position shown in Fig. 2, the sleeves L pushed toward each other by the springs N, whereby the brake-shoes E are moved from the wheels, and then the free ends of the springs T can move downward and press down the front bar O, thereby pulling up the ratchet-bars S, which engage with the ratchet-wheels C and revolve the wheels in the direction of the arrow *b′*, and thus propel the car in the direction of the arrow *a′*. When the car runs in the inverse direction of the arrow *a′*, the ratchet-wheels D and ratchet-bars S′ are used in the manner described above.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a car-truck, of a lever pivoted at its center at each side of the car and between the wheels at the said side of the car, slides on the ends of the levers, and brake-shoes pivoted to the said slides, substantially as herein shown and described.

2. In a car brake and starter, the combina-

tion, with bars pivoted at their middles between the wheels at each side of the car, of sliding brake-shoes held in the said bars, cross-bars connecting the sliding brake-shoes, springs secured to the car-bottom and resting on the cross-bars, ratchet-wheels on the axles, and ratchet-bars connected by cords or chains passed over pulleys with the cross-bars on which the springs act, substantially as herein shown and described.

3. In a car brake and starter, the combination, with the swinging bars F, mounted on a shaft, J, and bars O, uniting the bars F, of the sliding brake-shoes E, the toggle-levers K, the sleeves L, devices for moving the sleeves from each other, the springs T, resting on the bars O, the ropes or chains Q Q′, connected with the bars O and passed over pulleys R R′, the ratchet-bars S S′ on the ends of the ropes or chains, and the ratchet-wheels C D on the shafts, substantially as herein shown and described.

4. In a car brake and starter, the combination, with the shaft J, of the bars F, the bars O uniting them, the sliding brake-shoes E, the toggle-levers K, the sleeves L, the springs N on the shaft J, the springs T, secured on the truck-frame and resting on the bars O, the ropes or chains Q Q′, the pulleys R R′, the ratchet-bars S S′, and the ratchet-wheels C D on the axles, substantially as herein shown and described.

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Witnesses:

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