(No Model.)

J. KUBLER.

CAR STARTER AND BRAKE.

No. 328,493. Patented Oct. 20, 1885.

Fig. 1.

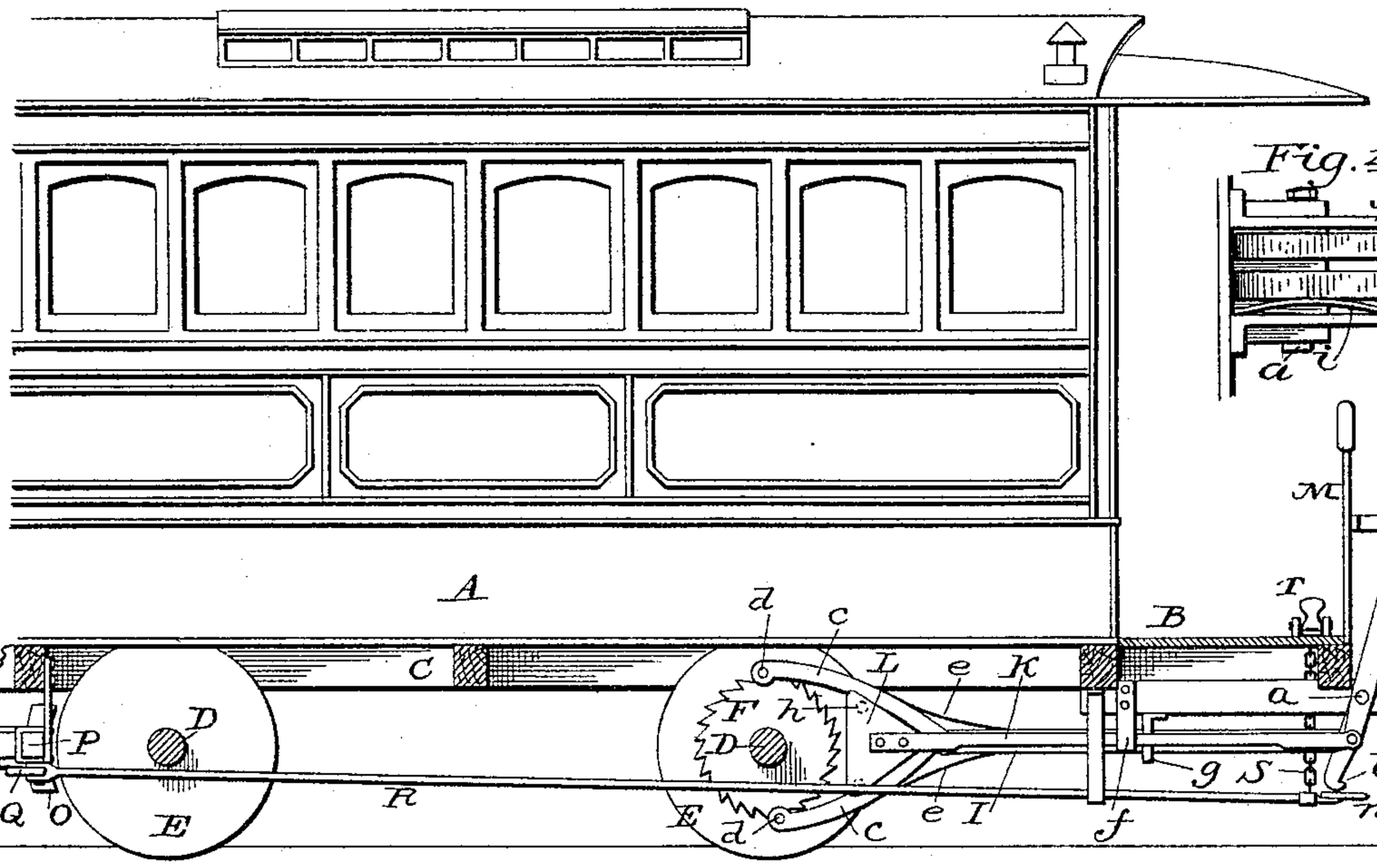

Fig. 4.

Fig. 2.

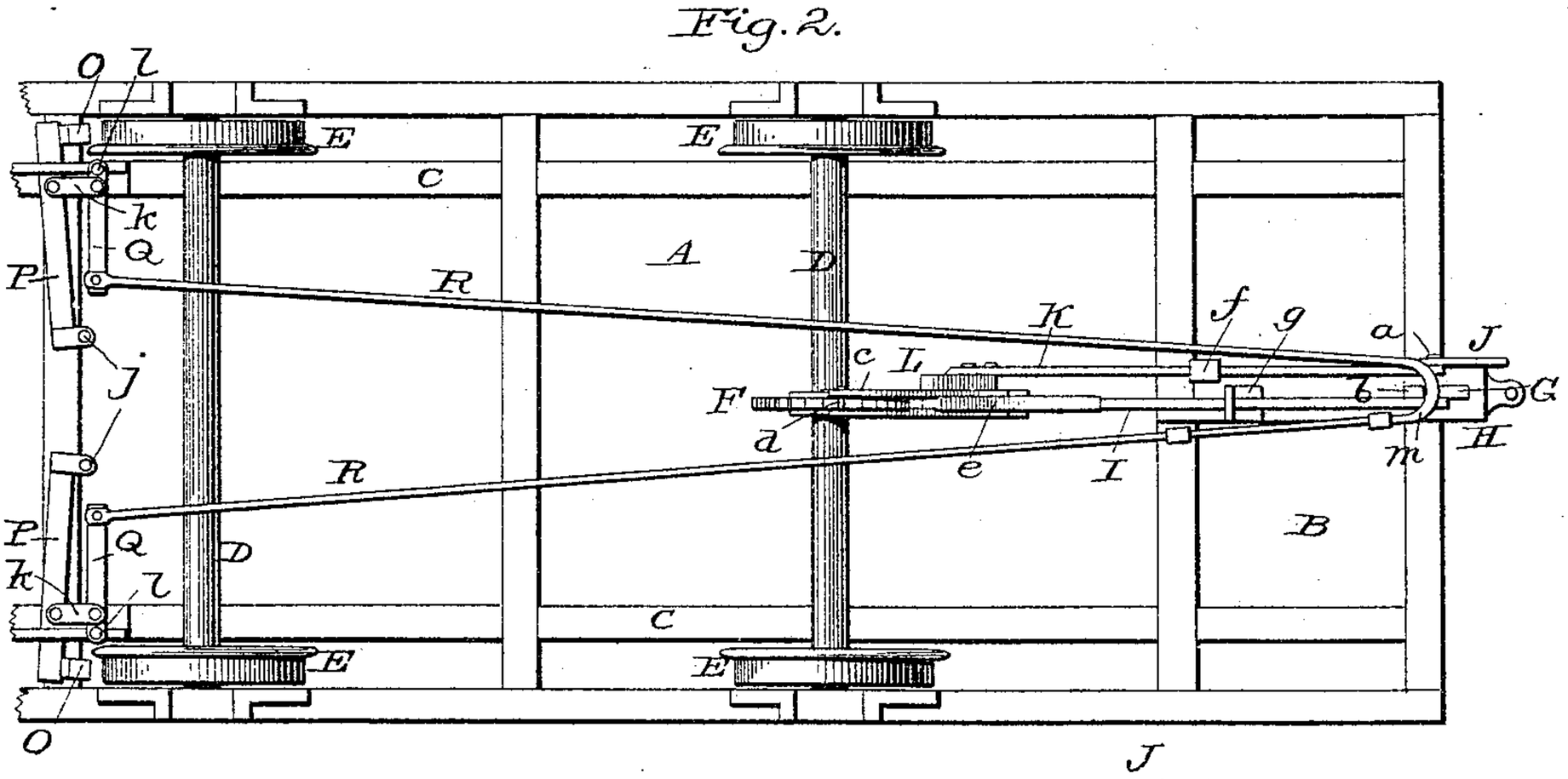

Fig. 3.

Fig. 5.

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JOHAN KUBLER, OF HOT SPRINGS, ARKANSAS, ASSIGNOR TO FRANK GROSS, OF SAME PLACE.

CAR STARTER AND BRAKE.

SPECIFICATION forming part of Letters Patent No. 328,493, dated October 20, 1885.

Application filed August 4, 1885. Serial No. 173,507. (No model.)

To all whom it may concern:

Be it known that I, JOHAN KUBLER, of Hot Springs, in the county of Garland and State of Arkansas, have invented certain new and useful Improvements in Combined Car Starters and Brakes, of which the following is a specification.

My invention relates to combined car-starters and brakes; and it consists in a novel construction and arrangement of parts thereof, as hereinafter set forth.

In the drawings, Figure 1 is a side elevation of a car, partly in section, with my improvements applied thereto; Fig. 2, a bottom plan view, and Figs. 3, 4, and 5 enlarged detail views.

The invention, briefly stated, consists, first, of a ratchet mechanism for causing a rotation of the forward wheels, and, second, a brake mechanism applied to the rear wheels, so arranged that it can be operated through the medium of the same lever used for actuating the starting apparatus, the brake mechanism being thrown into or out of connection with the starting mechanism by means of a foot-lever or trip.

A indicates a car, B the front platform, C the sills, D the axles, and E the wheels, all of which parts are of ordinary construction.

Upon the axle D of the forward wheels is rigidly secured a ratchet-wheel, F, whose teeth incline backward at the upper side of the wheel, as shown in Figs. 1 and 3.

G indicates a hand-lever, pivoted at *a* to the draw-bar H, and terminating at its lower end with a hook, *b*, as also shown in Figs. 1 and 3, the lever G being provided between the points *a* and *b* with a pivoted bar or arm, I, carrying at its rear end two pivoted pawls or dogs, *c*. These pawls *c* each have at their free ends a cross-pin, *d*, to engage with the teeth of the ratchet-wheel F, and each is held in engagement therewith by means of springs *e*, resting at one end upon the pawl and secured at the other end to the bar I, as clearly indicated in Figs. 1, 2, and 3. The pawls *c* are preferably made of two plates separated a distance slightly greater than the thickness of ratchet-wheel F, which passes between said plates, in order that the pin *d* in the ends of the pawls may obtain a secure hold upon the teeth, as the pawls pass on either side of the wheel F.

J indicates a lever pivoted to the draw-bar H on the pivot *a* of lever G, said lever J carrying at its lower end a rearwardly-extending bar or rod, K, as shown in all the figures.

At the rear end of the bar K is secured triangular block L. When lever J is thrown forward, it causes a backward movement of the block L, and the pawls *c*, being urged toward each other by their springs *e*, are caused to engage the teeth of the ratchet-wheel. When, however, as shown in Fig. 3, the lever J is moved in the reverse direction backward, the block L is moved up between and in contact with the pawls *c*, and the latter are consequently spread so far apart as not to touch the ratchet-wheel.

The lever K is carried in a guide or support, *f*, secured to the face of the draw-bar H or to the sill C. A similar support, *g*, is provided for the bar I, as shown in Figs. 1 and 2.

The block L is advisably provided with rollers *h*, (shown in dotted lines in Figs. 1 and 3,) to bear upon the faces of the pawls *c* and render the operation of the device as smooth and easy as possible. When the block L is in the position shown in Fig. 3, the springs *e*, acting on the pawls, tend to force them together; and in order to counteract that, and allow the block L to remain in its position when desired, I find it necessary to provide a retaining device for the lever J. In Fig. 4 I have shown such a device attached to the dash-board M of the car.

N indicates a loop or guide for the levers G and J, through which the latter swing or move, one face or side of the loop being provided with a spring, *i*, against which the lever J bears. This spring *i* is of such stiffness as to hold the lever J in any position in which it may be placed.

The parts being thus constructed, it will be seen that when it is desired to start the car it is only necessary to throw lever J forward, as in Fig. 1, thereby allowing the pawls *c* to engage with wheels F, and upon a reciprocation of lever G through rod I the pawls *c* will engage with wheel F and then turn the same forward. The pawls *c* are so arranged that

one shoves while the other pulls, alternating in their action.

The brake mechanism will now be explained.

O O indicate the brake-shoes, carried at the outer ends of brake-levers P, pivoted at *j* to the cross-sills of the car, as shown in Fig. 2, each brake-lever P being connected by a link, *k*, to a second lever, Q, pivoted at *l* to the longitudinal sills of the car. From the inner ends of the levers Q rods R extend under the car to near the front end thereof, and there join and terminate in a loop, *m*. A chain, S, is attached to the rod R near its front end, as shown in Figs. 1 and 3, and extends up through the platform B and connects with one end of a foot-lever, T, journaled to uprights on the floor.

By rocking or operating the lever T the rod R, through the chain S, is raised to the position indicated in Fig. 1, and the loop *m* hooked over the lower hooked end of lever G. Now, it will be seen that when it is desired to apply the brake it is only necessary to throw the pawls *c* out of engagement with wheel F and pull on lever G. This action causes a longitudinal movement of rod R and rocks levers Q P upon their pivots *l j* and applies the brake with considerable force.

Having thus described my invention, what I claim is—

1. In combination with a car and its axle, a ratchet-wheel thereon, a lever journaled on the car, a bar or rod attached to the lower end of the lever, reversed pawls carried by said bar or rod engaging with the ratchet-wheel and adapted to turn the wheel when said bar is moved in either direction, and a second lever also journaled upon the car and adapted to throw said pawls out of engagement with the ratchet-wheel.

2. In combination with car A, axle D, and ratchet-wheel F, lever G, provided with pawls *c*, and lever J, provided with block L, all arranged and operating substantially as described and shown.

3. In combination with a car-starter, a brake mechanism adapted and arranged to be connected to the former by means of a foot-lever, as described.

4. In a car-starter, the combination, with the ratchet-wheel, of a reciprocating bar or rod, pivoted pawls attached to the latter, springs bearing upon said pawls to urge them together, and a hand-lever connected to the bar or rod and pivoted to the car.

5. In combination with car A, axle D, and ratchet-wheel F, reciprocating rod I, pawls *c*, springs *e*, lever G, rod K, hand-lever J, and block L, all arranged as shown.

6. The combination, with car A and a starting mechanism applied thereto, of brake-rod R, extending forward beneath the car and adapted to be connected with or disconnected from the operating-lever of the starting mechanism.

7. The combination, with car A and a starting mechanism applied thereto, of a hand-lever for operating said mechanism, provided with a hooked end, and a brake-rod adapted to be connected with or disconnected from said lever at will.

8. In combination with car A, levers P Q, pivoted to the car, link *k*, shoe O, rod R, provided with hook *m* and lever G.

9. In combination with car A, levers P Q, pivoted to the car, link *k*, shoe O, and rod R, provided with hook *m*.

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