

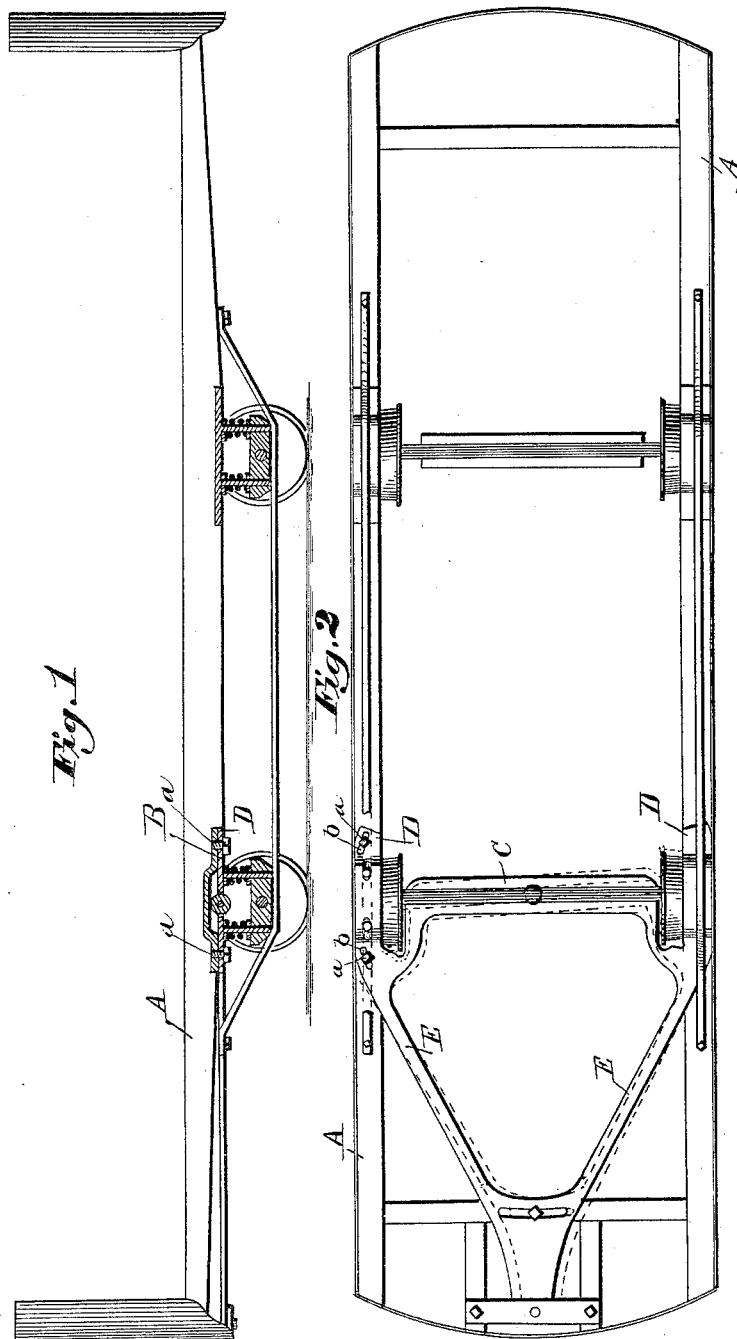
(No Model.)

2 Sheets—Sheet 1.

P. J. BORIS.
CAR TRUCK.

No. 419,139.

Patented Jan. 7, 1890.



Witnesses:
Fred. R. Cornwall
Chas. J. Stockman.

Inventor
P. J. Boris
J. H. Pearce
by Chas. E. Barlow
His attys. in fact

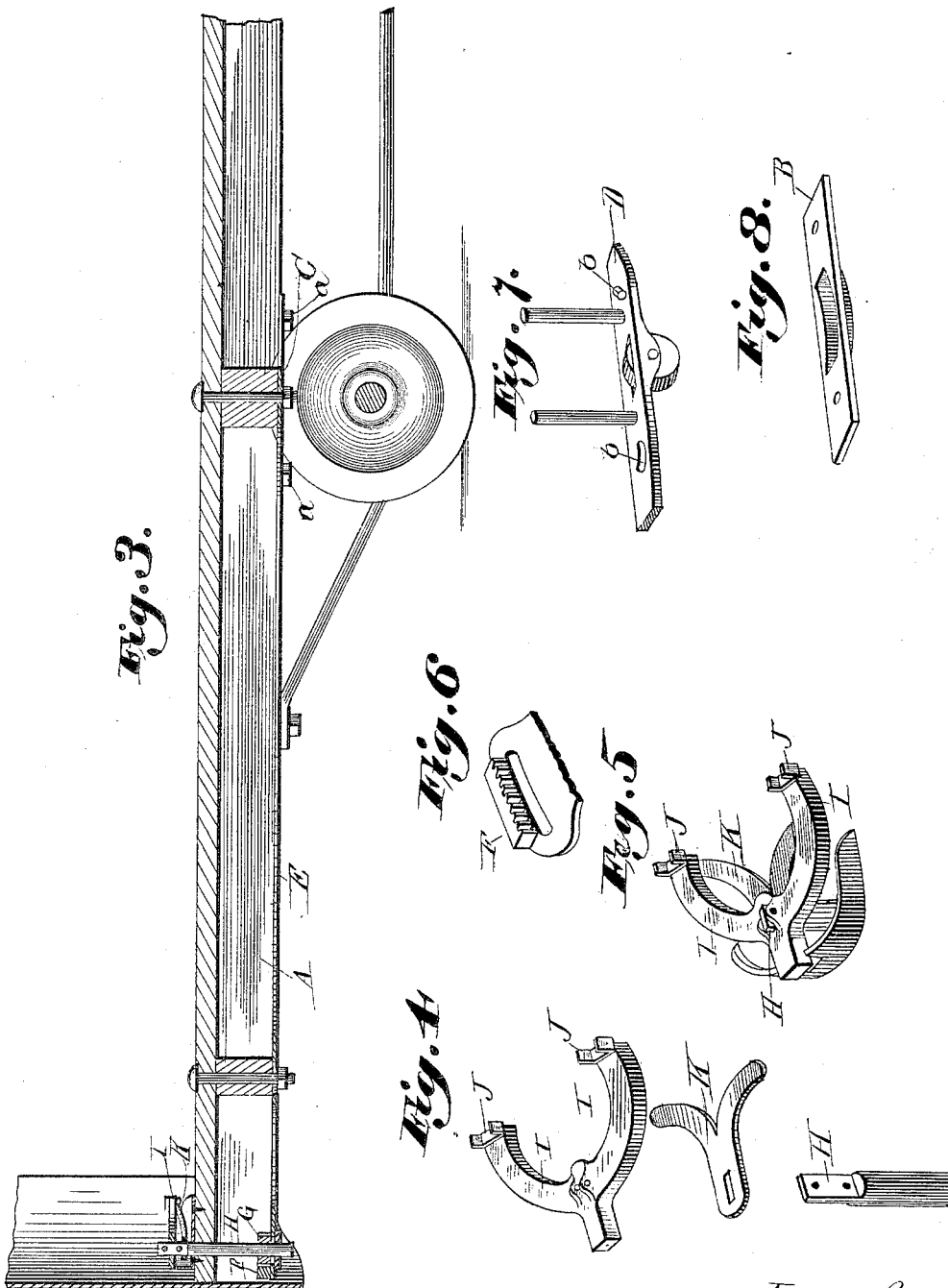
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UNITED STATES PATENT OFFICE.

PIERRE J. BORIS, OF BOSTON, MASSACHUSETTS.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 419,139, dated January 7, 1890.

Application filed October 10, 1889. Serial No. 326,545. (No model.)

To all whom it may concern:

Be it known that I, PIERRE J. BORIS, 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 Portable Switches, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation showing in section the bearings and axles. Fig. 2 is a bottom plan view showing in dotted lines the position assumed by the front axle and wheels turning a curve. Fig. 3 is an enlarged sectional view of the front truck, showing the locking device. Fig. 4 is a perspective view of the locking device, the parts being separated. Fig. 5 is a perspective view of the same, showing the same in their relative positions. Fig. 6 is a detached perspective view of the end of the rack-bar. Fig. 7 is a detached perspective of the roller. Fig. 8 is a detached perspective of the plate, showing the depression or track for the reception of the roller.

The object of my invention is to provide a switch which will be light, simple, and effective as a means of transferring a car from one track to another without the necessity of moving any portion of the rails of the track and without the necessity of providing the track with anything more than an ordinary stationary frog.

Another object of my invention is to provide a switch by the use of which may be avoided the disadvantage incident to the present ground or surface switch in the shape of deposits of sand, gravel, snow and ice, and other floating débris found along a road-bed, which operate to clog the switch and in many cases render it inoperative at the critical moment when the car should be transferred from one track to another.

Another object of my invention is to provide a switch which, by reason of its construction and location, will not be liable to rupture or displacement caused by passing vehicles, troublesome boys, or other malicious persons.

Another object of my invention is to provide a switch which can be easily and quickly operated with the greatest degree of certainty in the shortest possible time and with the least expense of physical and mechanical force.

Another object of my invention is to provide a switch which can be operated from the car by the conductor or driver without the use of additional supplemental devices and without materially interfering with his regular duties.

With these objects in view I construct a switch the novel features of which will be hereinafter described, and particularly pointed out in the claims at the end of the specification.

In the drawings, A A designate the sills of the car, to which are secured at each side and directly above the trucks two stationary plates B B, provided in turn with projecting bolts or pins *a a*, the uses of which are to be hereinafter described.

Extending across the car, underneath, is a rocker C, which is pivotally secured to the car at the center, and it is free to swing within certain predetermined limits, similar to the swinging movements of the front axle of an ordinary road-wagon. Over the trucks and at points substantially at the ends of the rocker C are two plates or surfaces D D, which have curved slots *b b* for the reception and accommodation of the bolts or pins *a a* on the stationary plates B B. A friction-roller is provided at these points to insure free and noiseless movement of the plates D D along the lower faces of the plates B B.

The rocker C is provided with two arms E E, extending diagonally forward from the region of the trucks, meeting at a point in front, where they are securely joined together, and where they are provided with a rack-bar F, which floats with the arms E E, and through the medium of which and the arms E E the angle of the rocker C with respect to the line of motion of the car is determined and secured at will. This rack-bar is operated by a pinion G, securely connected with a pivotal head H, provided with a pair of arms I I, to the outer ends of which are secured two pivotal foot-sockets J J. The

head H is operated by a spring K, which serves to keep the foot-sockets J J and their supporting-arms I I normally in an elevated position, and which also acts automatically to throw them into their normal position after they have been depressed by the foot of the operator. The purpose of this spring is primarily to keep the front ends of the arms E E locked securely in position at the center of the car when the switch is not in use.

From the foregoing it will be seen at a glance that this switch is light, simple, effective, and inexpensive. It is adapted to be attached to any and all of the ordinary cars now in use. It is adapted to be operated by a person on the car and without the use of devices other than the switch mechanism itself. The switch will always be under the car and out of the way of persons who would tamper with it, and all delays and discomfort incident to frozen or clogged switches in the road-bed will be entirely avoided. The cost of the equipment of a road-bed will be very materially lessened, and the necessity of employing a man to operate the switches of a road will be obviated, or, what is even of more importance, the drivers and conductors of cars will not be obliged to climb down or reach over and outside to operate a switch too frequently caught, clogged, or frozen to such a disadvantageous and disagreeable extent as to cause vexatious delay and serious hardship to the passengers, the operatives, and even the railroad itself. The lever formed by the arms E E, owing to the location of the pivot of the rocker C, is such as to secure ample power to enable the operator, by the use of his foot or otherwise, to instantly throw the rocker either to the right or the left, thus changing the line of motion of the car-wheels which are connected with this rocker to an extent sufficient to cause them to press the edge of the rail until the frog is reached,

when the wheels will instantly take the track to which the operator desires to throw the car.

It is obvious that many of the details of construction may be altered and varied and that mechanical equivalents might be substituted for many of the elements in the mechanism above described without departing from the spirit of my invention and without interfering with its usefulness. I therefore wish to be understood as not limiting myself to the exact construction shown and described; but

What I desire to secure by Letters Patent, and what I therefore claim, is—

1. In a portable switch, a rocker provided with a shifting-lever and a rack-bar, in combination with a pinion and foot-socket for operating said shifting-lever, substantially as described.

2. In a portable switch, the car-frame having a pair of plates secured thereto, in combination with a rocker pivotally secured beneath the car-frame and provided with a second pair of plates adjacent to the plates on the frame, said plates provided with corresponding slots and projecting pins, and a shifting-lever for said rocker, substantially as described.

3. In a portable switch, the car-frame having a pair of plates secured thereto, in combination with a rocker pivotally secured beneath the car-frame and provided with a second pair of plates adjacent to the plates on the frame, said plates provided with corresponding slots and projecting pins and friction-rollers, and a shifting-lever for said rocker, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

PIERRE J. BORIS.

Witnesses:

H. M. OLIVER,
CHAS. E. BARBER.

Correction in Letters Patent No. 419,139.

It is hereby certified that Letters Patent No. 419,139, granted January 7, 1890, upon the application of Pierre J. Boris, of Boston, Massachusetts, for an improvement in "Car-Trucks," was erroneously issued to said Boris as owner of the entire interest in said invention; that said Letters Patent should have been issued to said *Pierre J. Boris, Horace M. Oliver, and J. Henry Pearse, jointly*, said Oliver and Pearse being assignees of two-thirds interest therein as shown by the record of assignments in this Office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 25th day of February, A. D. 1890.

[SEAL.]

CYRUS BUSSEY,

Assistant Secretary of the Interior.

Countersigned:

R. J. FISHER,

Acting Commissioner of Patents.