

J. A. LANDERS.
BRAKE.

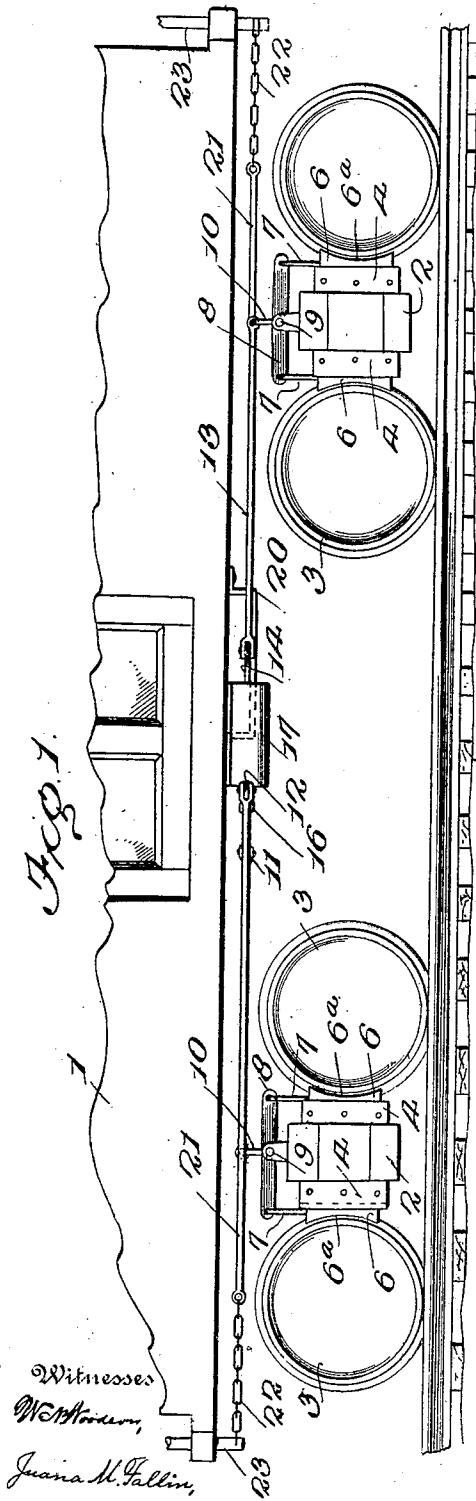
APPLICATION FILED OCT. 26, 1909.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.

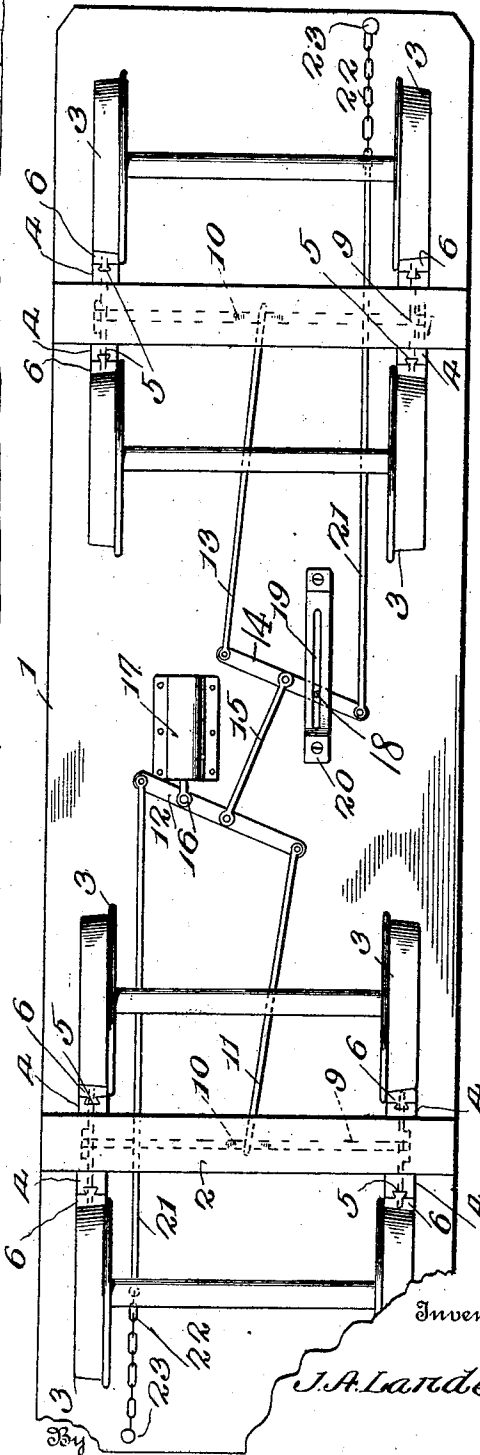
969,167.

Fig. 1.



Witnesses
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Fig. 2.



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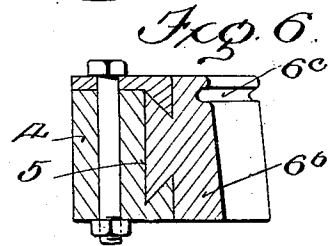
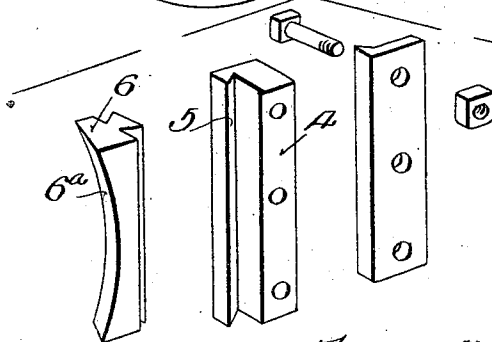
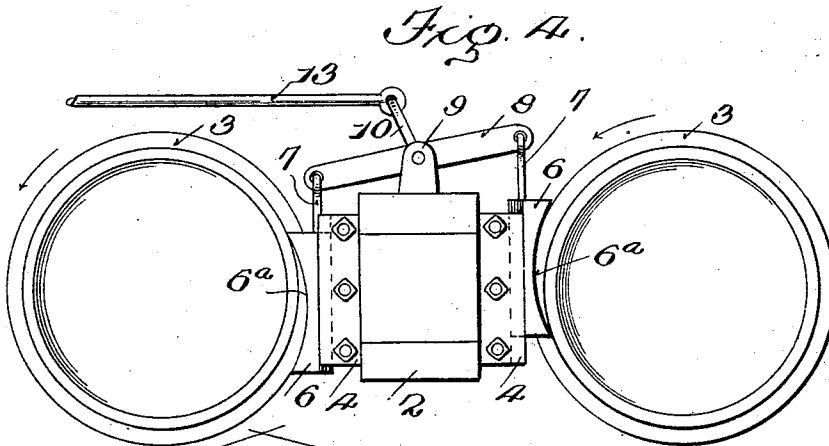
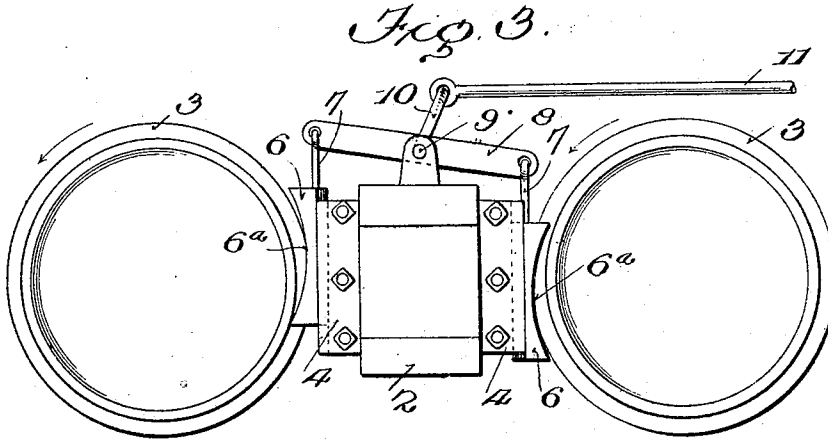
Attorneys

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN A. LANDERS, OF JACKSON, MICHIGAN.

BRAKE.

969,167.

Specification of Letters Patent.

Patented Sept. 6, 1910.

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To all whom it may concern:

Be it known that I, JOHN A. LANDERS, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Brakes, of which the following is a specification.

The present invention relates to improvements in brakes such as are employed upon railway cars, locomotives, automobiles, and the like, and the object of the invention is the provision of a simple and inexpensive brake which will operate in an effective manner to check the speed of the car and which can be applied either manually or by means of power.

The invention further contemplates a brake device which does away with all dangerous brake beams, hangers, and similar parts, which are liable to become loose and derail the car.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a car provided with a brake constructed in accordance with the invention, the upper portion of the car being broken away; Fig. 2 is a bottom plan view of the same; Fig. 3 is a side elevation of one of the trucks showing the brakes as applied when the wheels are turning in one direction; Fig. 4 is a similar view of the other truck; Fig. 5 is a detail perspective view of one of the brake shoes and guides, the parts being separated; and Fig. 6 is a horizontal sectional view through a modified form of the brake shoe.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the body portion of a car which is supported at its opposite ends upon the trucks 2, each of the trucks being provided with four wheels 3, two of which are located upon each side of the car. Mounted upon the trucks 2 between the wheels 3 of each pair, is a pair of oppositely facing vertical guides 4 formed with dove-tail grooves 5 receiving corresponding ribs upon the back of the brake shoes 6. These brake shoes may

be formed of metal or other suitable material and are mounted to have a vertical movement. It will also be observed that the outer face of each of the brake shoes has a concave formation as indicated at 6^a, the various parts being so arranged that when the brake shoes are in an intermediate position they do not engage the wheel and ample clearance space is provided for the latter. However, when the brake shoes are moved either up or down the end portions thereof have a wedging engagement with the wheels, and when the brake shoes are moved in the same direction that the wheels are turning, are held in an operative position by the wheels themselves. These brake shoes are connected by links 7 to arms 8 which project from a horizontal rock shaft 9 one of which is journaled upon each of the trucks connected with the guide of the brake shoe to conform to the construction shown. It will thus be obvious that by moving these rock shafts in either direction the brake shoes may be moved vertically upon the guides and caused to engage the wheels 3. Each of these rock shafts 9 is formed with an upwardly projecting crank arm 10, the crank arm of one of the rock shafts being connected by a link 11 to one end of a brake lever 12, while the crank arm of the opposite rock shaft is connected by a link 13 to one end of a second brake lever 14. These two brake levers are connected by a rod 15, the extremities of which are pivotally connected to the brake levers between the ends thereof. The first mentioned brake lever 12 is also connected to a rod 16 connecting it with means to operate it such as the air cylinder 17 while the second brake lever 14 is provided with a pivot stud 18 loosely received within a slot 19 in a plate 20 applied to the bottom of the car. The free ends of the two brake levers are each connected by a rod 21 and chain 22 to a vertical shaft 23 which is designed to be rotated by hand power. It will thus be obvious that the brake can be applied either manually or by means of power.

A slight modification of the invention is shown in Fig. 6, in which the brake shoes 6^b have a width corresponding to the full width of the wheels and are formed with a groove 6^c designed to receive the flanges of the wheels. Such a construction is generally employed on locomotive drive wheels and has

the advantage of giving a great braking power and also of giving equal wear to the flanges and tread of the wheels.

Having thus described the invention, what is claimed as new is:

1. In a brake, the combination of a pair of wheels, a pair of brake shoes designed to engage said wheels, respectively, the faces of the brake shoes having a concave formation and being spaced from the wheels when in an intermediate position, but having a wedging engagement with the wheels when moved in one direction, and means for simultaneously moving said brake shoes in opposite directions.

2. In a brake, the combination with a pair of wheels, a pair of vertically disposed guides supported between the wheels, a pair of oppositely facing brake shoes mounted upon the guides and formed with concave faces which clear the wheels when the brake shoes are in an intermediate position, but have a wedging engagement with the same when moved in one direction, and means for moving said brake shoes in opposite directions.

3. In a brake, the combination of a truck, a pair of wheels journaled upon the truck, a pair of guides supported upon the truck between the wheels, a brake shoe slidably mounted upon each of the guides, the said brake shoes being formed with concave faces which clear the wheels when the brake shoes are in an intermediate position but have a wedging engagement with the same when the brake shoes are moved in one direction, a rock shaft mounted upon the truck, and arms projecting from the rock shaft and having an operative connection with the brake shoes to admit of the same being moved in opposite directions by moving the rock shaft in either direction.

4. In a brake, the combination of a truck, a pair of wheels journaled upon the truck, a pair of guide members supported upon the truck between the wheels, brake shoes slidably mounted upon the guide members and formed with concave faces which clear the wheels when the brake shoes are in an intermediate position but have a wedging engagement with the same when the brake shoes are moved in one direction, a rock shaft having an operative connection with

the brake shoes for moving them in opposite directions, means for manually moving the rock shaft in either direction, and means for moving the rock shaft by power.

5. In a brake, the combination of a car body, a pair of trucks upon which the car body is supported, a pair of wheels journaled upon each of the trucks, a pair of guide members supported upon each of the trucks between the wheels, brake shoes slidably mounted upon the guide members and formed with concave faces which clear the wheels when the brake shoes are in an intermediate position but have a wedging engagement therewith when the brake shoes are moved in one direction, a rock shaft upon each of the trucks and having an operative connection with the brake shoes for moving them in opposite directions, a pair of brake levers, a rod connecting the brake levers, connecting means between the brake levers and the rock shafts, and means co-operating with the brake levers to turn the shafts.

6. In a brake, the combination of a car body, a pair of trucks upon which the car body is supported, a pair of wheels journaled upon each of the trucks, a pair of guide members supported upon each of the trucks between the wheels, brake shoes slidably mounted upon the guide members and formed with concave faces which clear the wheels when the brake shoes are in an intermediate position but have a wedging engagement therewith when the brake shoes are moved in one direction, a rock shaft journaled upon each of the trucks and having an operative connection with the brake shoes, a crank arm projecting from each of the rock shafts, a pair of brake levers supported upon the car body, a rod connecting the brake levers, a link connecting each of the brake levers to the crank arm of one of the rock shafts, a brake actuating shaft, and connecting means between one of the levers and the said brake actuating shaft.

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

JOHN A. LANDERS. [L. S.]

Witnesses:

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