

Car Brake.

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[illegible]

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Letters Patent No. 85,987, dated January 19, 1869.

IMPROVED CAR-BRAKE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES H. BEATTY, of Franklin, in the county of Venango, and State of Pennsylvania, have invented a new and useful Improvement in Car-Brakes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements in brakes for checking or stopping railroad-cars or trains, when the same are under motion, and which brakes may be applied to land-carriages, if desired, the said improvement affording the most efficient and expeditious means for stopping railroad-cars which has hitherto been applied to them; and

The invention consists in operating the shoes of the brake by a combination of mechanical power, and in bringing the shoe in contact with the rail, and in embracing or gripping the wheel with a double brake, as will be hereinafter more fully described.

Figure 1 represents a vertical longitudinal side section of a railroad-car or truck, provided with one of my improved brakes, showing the position of the brake when the car is in motion and brakes not applied.

Figure 2 is a side elevation of the same, (partly in section,) showing the brake as when applied for stopping the train, in case of accident.

Similar letters of reference indicate corresponding parts.

This brake consists of two shoes applied on opposite sides of each of the forward wheels of a railroad-car, which are shoes marked A and B.

These shoes are tied together by bars C, on each side of the wheels.

The shoes have rectangular slots or mortises on their backs, as seen at D, and the bolts E, which pass through the ends of the bars C, pass through these slots, so that the shoes have play longitudinally, or up and down thereon, the length of the slots.

F represents the stirrups, by which the ends of the bars are supported.

Eccentric-bands g are attached to the upper ends of these stirrups.

h represents the eccentrics, which are fast to transverse shafts i, which shafts are supported on the sides of the car, as seen in the drawing, in boxes j.

J represents arms or levers, which are rigidly attached to these shafts, and through which power is transmitted to the brakes.

K is a horizontal shaft, supported in boxes m, beneath the car-frame, (longitudinally with the car,) as seen more distinctly in fig. 1.

L is a drum on this shaft K.

The arms or levers J are connected with this drum by chains, ropes, or elastic bands, of any suitable description, marked M.

The arms J are drawn back to the position seen in fig. 1, by the elastic bands o.

The shoes A and B are held up and from contact with the wheel by the springs P, which are attached to the bars C, as seen in fig. 1.

R represents the car-wheel.

The brake is operated (or brought in contact with both wheels simultaneously) by turning the shaft K, and thereby drawing one or both of the shoes upward and on to an enlarged diameter of the wheel.

S is a wheel or drum, which is attached to the shaft for this purpose.

Power is applied to this wheel or drum from the platform of the car, by any suitable mechanical means.

It will be seen that, by turning the wheel in one direction, the front shoes A will be brought in contact with the car-wheel, which will serve as the ordinary station-brake, the motion of the car being in the direction indicated by the arrow.

When the brake is thus applied, the shoe A could not assume the position seen in fig. 2, but would be held up, so that it could not be drawn down by the friction; but, in case of accident, or when it becomes necessary to suddenly stop the train, the wheel and shaft K are turned in the other direction, and the shoe B is brought in contact with the wheel.

The shoe A (now being slackly held) is brought in contact with the wheel, and the motion of the wheel and the friction produced will draw it down in contact with the rail, so as to enclose the rail by the flanges on each side, as seen in fig. 2, and indicated by dotted lines.

When one of the shoes engages with the wheel, the other is also brought in contact with it at all times.

It will be seen that the eccentrics h are acted upon by the arms or levers J, and that the levers J are operated by the wheel and axle, so that the two principal mechanical powers, the lever and the inclined plane, are brought into requisition in operating the brakes.

I claim as new, and desire to secure by Letters Patent—

1. The combination of the shoes A B, bars C, links F g, eccentrics h, and spring P, all constructed and arranged to operate substantially as herein shown and described, for the purpose specified.

2. In combination with the above, the shaft K L, cords or chains M N, arms J, and elastic bands O, substantially as herein described, for the purpose specified.

3. The construction of the shoes A B, with slots D at their backs, adapted to receive the pins E, connecting the bars C, whereby the said shoes are made adjustable, in the manner and for the purpose substantially as herein shown and described.

4. The adjustable shoes A B, when combined with mechanism, whereby one of them may be drawn up on the enlarged diameter of the wheel, while the other is unmoved, or while one is drawn up, the other, by friction with the wheel, is drawn down in contact with the rail, in the manner and for the purpose substantially as herein shown and described.

The above specification of my invention signed by me, this 11th day of April, 1868.

JAMES H. BEATTY.

Witnesses:

WM. F. McNAMARA,
ALEX. F. ROBERTS.