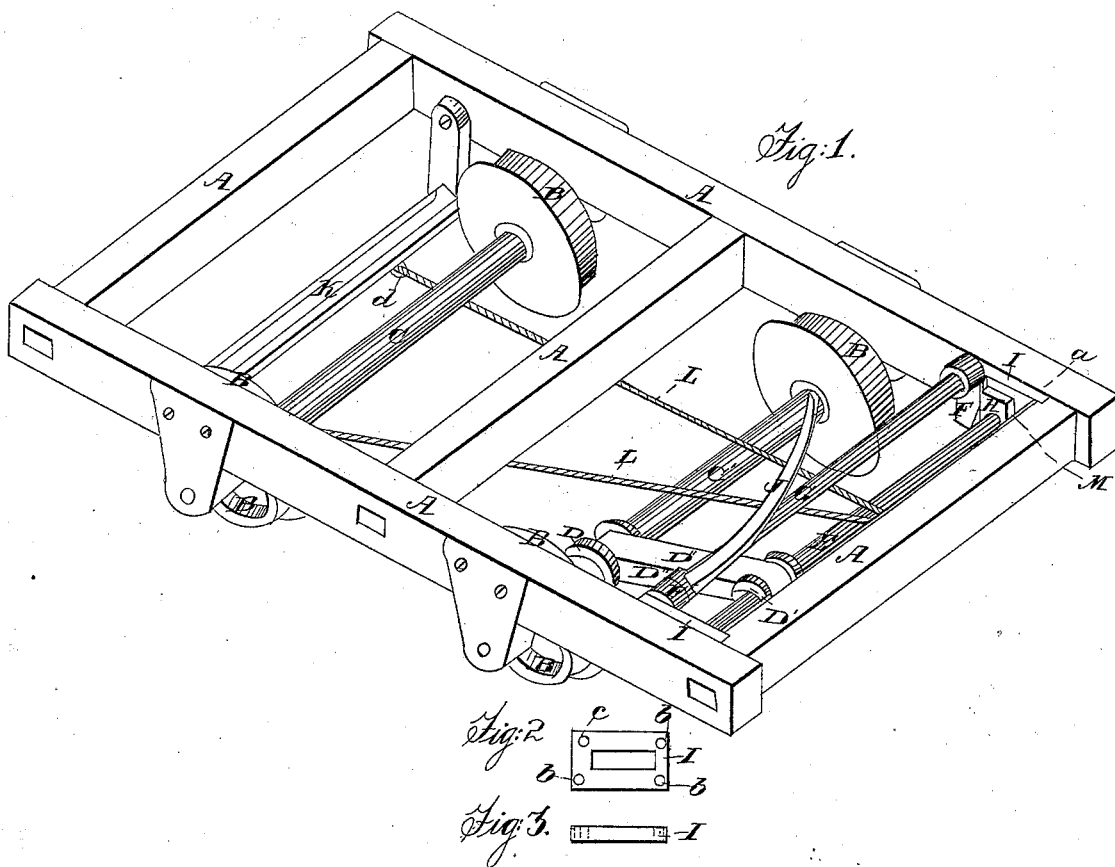


S. McCAMBRIDGE.
Car Brake.

No. 51,204.

Patented Nov. 28, 1865.



Witnesses

Asst. C. Powell
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UNITED STATES PATENT OFFICE.

SAMUEL McCAMBRIDGE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **51,204**, dated November 28, 1865.

To all whom it may concern:

Be it known that I, SAMUEL McCAMBRIDGE, of the city and county of Philadelphia, 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 of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of a truck with the improved brake in connection therewith. Fig. 2 is a face view of one of the guide-pieces I. Fig. 3 is an edge view of same.

Like letters in all the figures indicate the same parts.

The nature of my invention and improvement consists in operating car-brakes by means of a belt, which is actuated by a pulley on one of the axles of a car or tender, in the manner I will proceed to describe.

I usually combine the parts for operating the brake with a tender and connect the brakes for the whole train of cars in the usual manner; but to show the peculiar construction and arrangement of the improved brake I have represented the improvement on an ordinary truck.

In the drawings, A represents the truck. B B B are the wheels on the axles C C'. D is a pulley on the shaft C', and D' is a pulley on the counter-shaft E.

There is a belt, D'', for operating the brake, which passes over the pulleys D and D', communicating force from the axle or shaft C to the counter-shaft E, the said force being imparted to the brake by means which I will presently describe. The belt is slack except when the brake is to be brought into action. It is tightened by means of the cams F F on the lever-shaft G being brought into action against the journal-boxes H H of the counter-shaft E, which slide in the slots *a* of the guide-pieces I, one of which pieces is represented in Figs. 2 and 3. The holes *b b b b* of the said guide-pieces are for the purpose of securing them by means of screws or bolts to the inner sides of the side pieces of the truck-frame. The holes *c* are for the reception of the journals of the shaft G.

J is a lever attached to the said shaft G, for operating the cams F F.

K is a bar to which the check-blocks are attached, to check the adjacent wheels B B. The ends of the cord L are secured to the said bar K by means of the hooks *d d*, and the middle of the cord is fastened to the counter-shaft E.

The operation is as follows: When the car or train is to be checked the brakeman takes hold of the lever J and moves the handle backward, which causes the shaft G to turn in the direction of the arrow and the cams F F to bear against the journal-boxes H H of the counter-shaft E, forcing the springs M, which bear against said boxes, forward, and tightening the belt D'', which is then set in motion by means of the revolution of the shaft C', so as to revolve the shaft E and wind up the cord L tightly, thus forcing the check-blocks attached to the bar K against the contiguous wheels B B and checking their motion. In like manner all the wheels of a train may be checked by connecting their check-blocks in any convenient manner with the bar K.

A shifter and loose pulley may be used, if desired, for slacking and tightening the belt D'', instead of the shaft G and cams F F.

If the belt D'' should not, under all circumstances, be found sufficient for the purpose, there may be an intermediate shaft employed, connected to the shaft E by means of a wheel and pinion, the pulley D' being secured on said intermediate shaft.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the counter-shaft E and lever J with the shaft C' by means of the belt D'' and pulleys D D', substantially in the manner described, and for the purpose specified.

2. The combination and arrangement of the lever J, shaft G, belt D'', shaft C', and cams F F with the counter-shaft E, substantially as described, and for the purpose set forth.

In testimony that the above is my invention I have hereunto set my hand and affixed my seal this 11th day of September, 1865.

SAMUEL McCAMBRIDGE. [L. S.]

Witnesses:

JAS. C. BOWERS,
STEPHEN USTICK.