

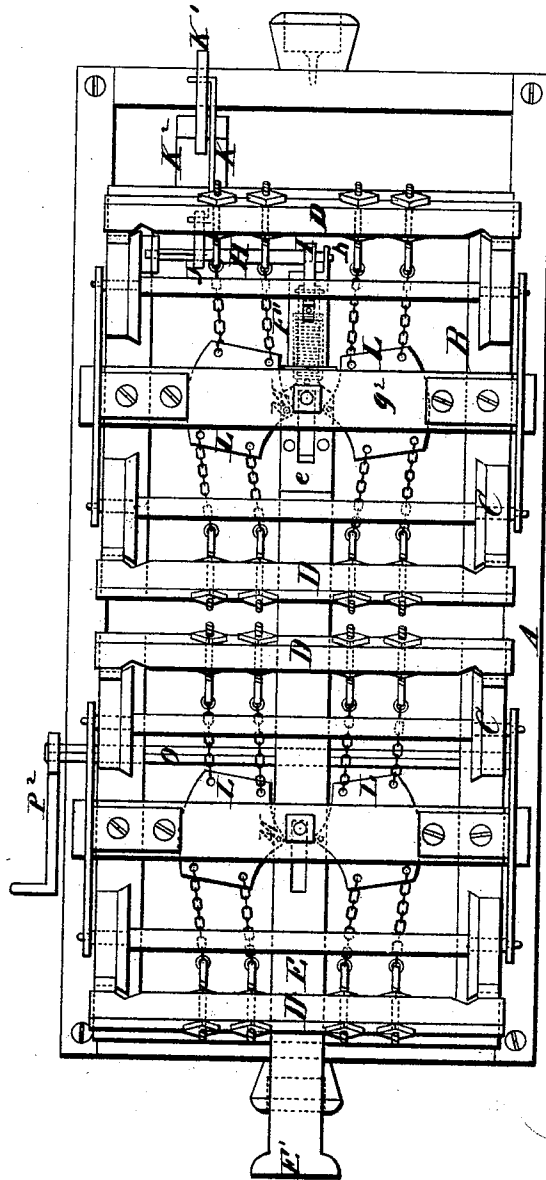
W. BALL.

Improvement in Car-Brakes.

No. 128,277.

Fig. 1.

Patented June 25, 1872.



Witnesses.
Villette Anderson.
D. D. Lane

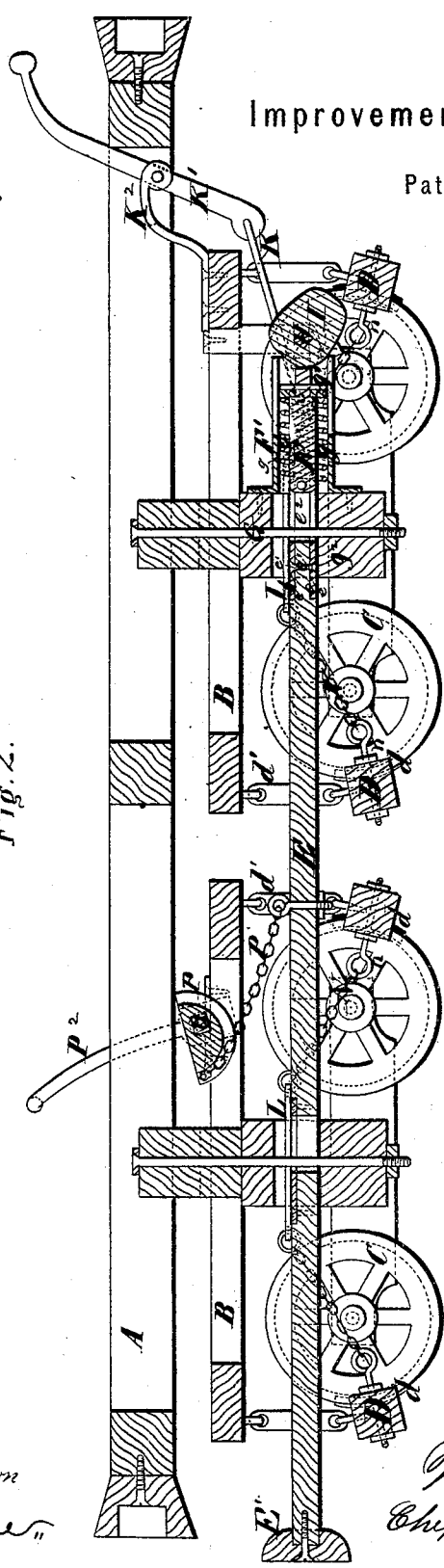
Inventor.
William Ball
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Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM BALL, OF OREGON, MISSOURI.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. 128,277, dated June 25, 1872; antedated June 15, 1872.

To all whom it may concern:

Be it known that I, WILLIAM BALL, of Oregon, in the county of Holt and State of Missouri, have invented a new and valuable 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 drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of an under-side plan view of my invention. Fig. 2 is a vertical longitudinal section of the same.

This invention has relation to railroad-car brakes; and the novelty consists in the construction and arrangement of devices, hereinafter described, for the purpose of operating all the brakes on a train from one platform in an effectual manner, and with all the requisite speed, as hereinafter described.

Referring to the accompanying drawing illustrating this invention, A represents the body of a railroad car or engine-tender resting on the trucks B B having the ordinary wheels C. D designates transverse brake-bars provided with metallic brake-shoes *d*, and hinged to the truck-frames B B by means of links *d'*. E represents a longitudinal bar running underneath each car and projecting beyond its ends, as shown at *e* in the drawing. The bar E which runs along under the engine-tender projects beyond the rear end only. The forward end extends to about the middle of the forward truck, where it is provided with a narrowed metallic shank, F, which enters an open tube or box, F', rigidly secured to said truck, and containing a coiled spring, *g*. The shank F is provided with a head, *g'*, against which one end of the spring rests, the other end touching the cross-bar or bolster *g''*. The bar E, which is designed to move longitudinally, is braced and guided by means of two slotted plates, *e e*, attached to it by means of a screw, *e'*. The truck-bolt G passes through the slots in the plates *e e*, and also through a slot, *e''*, in the end of the bar E. H design-

ates a horizontal transverse shaft journaled to a lug, *h*, projecting from the end of the tube F' and to a standard, *h'*, depending from one side of the tender or car-platform. To this shaft is attached a cam, I, touching the end of the shank F, so that when the shaft is turned the cam shall move the bar E. As the cam turns so that its edge tends to recede from the end of the shank F the spring *g* forces the bar E forward to its first position. A crank-arm, J, is secured to or formed on the shaft H, and connected, by means of a rod, K, to the lower end of a lever, K¹, which is pivoted to a bracket, K², projecting from the forward end of the forward truck. The upper end of this lever extends so as to be within reach of the engineer or conductor. By moving this lever in the proper manner all the brakes in a train of cars may be operated. The bars E, which are attached to all the cars, pass through openings formed in the bolsters or transverse beams of the wheel-trucks B. At either side of these openings, and within suitable recesses, lever-plates L are arranged. They are constructed with inwardly-projecting lugs M, which are pivoted to the bar E. These plates are also connected, by means of chains N, with the brake-bars D, and hence, according to the direction which the bar E is moved, tighten or loosen the brakes. The chains N are attached to the brake-bars D by means of bolts *n* passing through them, and provided with nuts on both sides, so that any slack in the chain may be easily taken up. O indicates a transverse shaft journaled to one of the trucks of each car and of the tender. Secured to said shaft is an eccentric drum or pulley, P, around which winds a chain, P¹, which is connected to the bar E. The shaft O is provided with an arm, P², by the working of which the bar E is moved to operate the brakes. Each of the bars E which are attached to the cars in a train are furnished with heads E'.

When the bar of the tender or any of the cars is moved so as to bring the brakes in effect the bars of the succeeding cars closing up come in contact with the projecting ends of

the bar of the tender or first car, and, being moved thereby, operate the brakes of all the cars.

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

The car-brake herein described, consisting of the longitudinal bar E, plates L, chains N, brake-bars D, shaft H, cam I, and spring g, substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM BALL.

Witnesses:

CLARKE IRVINE,
T. C. DUNGAN.