

(No Model.)

P. MAECHLING.
BEAMLESS BRAKE.

No. 577,768.

Patented Feb. 23, 1897.

Fig. 1.

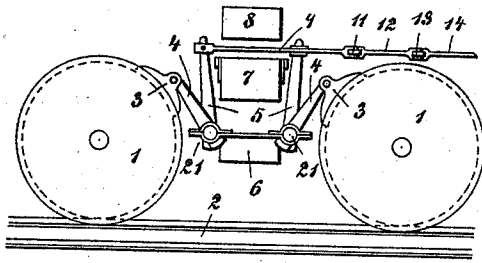


Fig. 2.

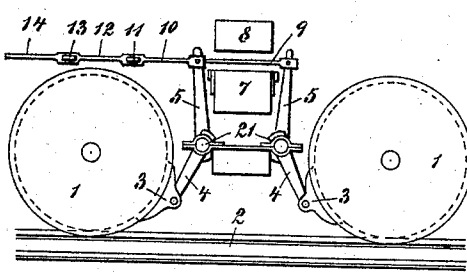


Fig. 3.

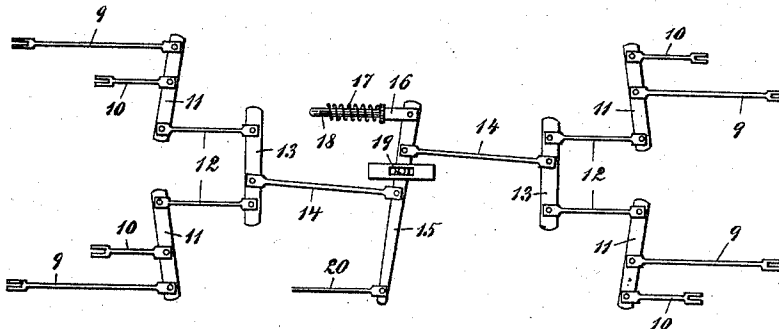


Fig. 4.

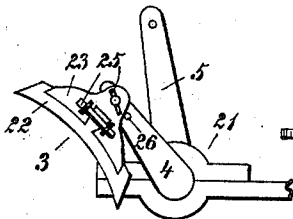


Fig. 5.

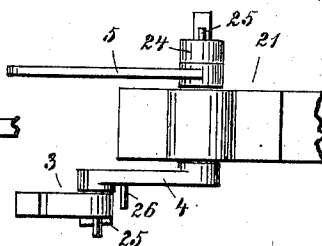
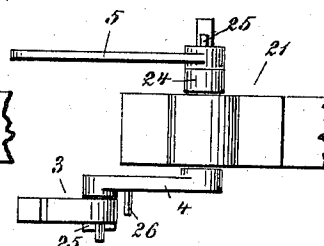


Fig. 6.



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BEAMLESS BRAKE.

SPECIFICATION forming part of Letters Patent No. 577,768, dated February 23, 1897.

Application filed May 8, 1896. Serial No. 590,744. (No model.)

To all whom it may concern:

Be it known that I, PHILLIP MAECHLING, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Beamless Brakes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in a beamless brake, and its novelty will be fully understood from the following description and claims when taken in connection with the annexed drawings.

The objects of my invention are to provide a brake without a beam, thereby avoiding danger to the brakeman, also to provide shoes which are interchangeable and which rest upon the wheel near the top and bottom, thus enabling greater pressure to be obtained; and this invention is an improvement upon Letters Patent No. 498,356, issued on May 30, 1893, to Maechling and Porter. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view showing shoe at top of wheel. Fig. 2 is a side view showing shoe at bottom of wheel. Fig. 3 is a top view of brake-gear. Fig. 4 is a side view of shoe and arm. Figs. 5 and 6 are top views of rocker-arms.

Similar numerals refer to similar parts throughout the several views.

In the drawings, 1 designates car-wheels; 2, car-track; 3, brake-shoes.

4 are rocker-arms of brake-shoes, and are rigidly attached to a shaft which rests in journal-box 21. 5 are levers which are adjustably secured to said shafts by keys 25, so they can be so changed as to increase or diminish space from the rocker-arms on shaft to which they are attached, so that brake-shoes can be thrown against the periphery of car-wheel either above or below, as shown in Figs. 1 and 2.

6 is a spring-board to which journal-box 21 is attached, so that rocker-arm 4 works in same.

7 is a truck-bolster.

8 is a car-bolster.

9 is a connecting-rod which is attached to one of the levers 5.

10 is a connecting-rod which is attached to the other of the levers 5 on inside of truck-wheel.

11 and 13 are cross-pieces.

12 and 14 are connecting-rods.

15 is the brake-lever in center of car.

16 is a spring-rod.

17 is a coil-spring.

19 is a pivot.

20 is a rod connecting the brake-lever with air-cylinder.

22 is a brake-shoe, which is interchangeable.

23 is a brake-head.

24 is a collar.

25 are keys.

26 is a resting-pin in the rocker-arm against which the shoe falls, so that it stands approximately in correct position to strike the wheel when pressure is applied.

In practice the brake operates differently from those in use from the fact that the brake-shoes bear upon the top or bottom of each wheel, and when pressure is applied to lever 15 the brake-shoes are thrown against the top and bottom of each wheel, as shown in Figs. 1 and 2, thus giving a very heavy pressure upon the brake and stopping the car in much less time than can be done with brakes now in use.

The brake-gear shown in Fig. 3 is arranged so that its right end is adapted to connect with shoes which are applied at the bottom of the wheels, as in Fig. 2, and its left end with those at the top of the wheels, as in Fig. 1.

With respect to Fig. 2, for instance, the two levers 5 are so set by means of their keys 25 and the collars 24 that the shorter connecting-rod 10 may be attached to the innermost lever (*i. e.*, that nearer the center of the length of the car-body) and the longer connecting-rod 9 to the outermost lever. Movement of the piston in the air-cylinder through the connecting-rod 20 turns the brake-lever on its pivot 19, throws the longer end of the brake-lever 15 to the right, and hence draws inward both rods 14, cross-pieces 13, rods 12, and one end of each cross-piece 11, and the latter by this movement causes a pull on the longer connecting-rod 9 and a push on the shorter one 10, thus moving the upper extremities of the two levers 5 in proper directions to apply the brake-shoes to the

wheels, as will be clear. At the same time the other set of connecting-rods 9 10 at this end of the car is similarly applying the shoes on the wheels at the other side; but my construction is such that by the same brake-lever 15 shoes which contact with their wheels near the tops of the latter can be simultaneously applied, as seen at the left of Fig. 3 and in Fig. 1. It is only necessary that the levers 5 be properly set with respect to the length of the rock-shaft and the long and short connecting-rods 9 and 10 properly connected to give one lever 5 a push and the other a pull, or the contrary, as desired. However, both rocker-arms 4 for one pair of wheels must stand either above or below their shafts, as will be clear.

An advantage of my invention is its economical construction and ease by which the same may be operated, giving a pressure both upon top and bottom of wheel at same operation, also in having shoes interchangeable and which can be removed summarily.

Having described my invention and the manner in which the same is or may be operated, I would say in conclusion that I do not limit myself to the precise details shown in illustration, as the same may be varied to some extent, but

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

1. In a brake, the combination with a pair of wheels, rock-shafts having arms, and shoes on the latter; of a collar on each shaft next its bearing, a lever keyed to the shaft and longitudinally adjustable thereon so that the

two levers stand in different planes, long and short connecting-rods leading from said levers to a common member, and means for swinging the latter so as to move the levers simultaneously in opposite directions, as and for the purpose set forth.

2. In a brake, the combination with a pair of wheels, rock-shafts having arms, and shoes on the latter; of levers turning with said shafts, means for adjusting the levers longitudinally thereon, long and short connecting-rods leading from the levers respectively to a common member and pivoted thereto, and brake-gearing for swinging said member so as to move the rods simultaneously in opposite directions, as and for the purpose set forth.

3. In a brake, the combination with a pair of wheels, rock-shafts having arms, shoes on the latter, and levers rising from the shafts and standing in different longitudinal planes; of long and short connecting-rods leading from the levers respectively and pivoted to one end and to an intermediate point of a swinging member, a brake-lever actuated from a suitable source, a cross-piece connected with the brake-lever, and a rod leading from the cross-piece and pivoted to the other end of said swinging member, as and for the purpose set forth.

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

PHILLIP MAECHLING.

Witnesses:

JOHN MAECHLING,
LOUIS SANGER.