(No Model.)

A. M. KENDALL.

CAR BRAKE.

No. 418,725. Patented Jan. 7, 1890.

Fig. 1.

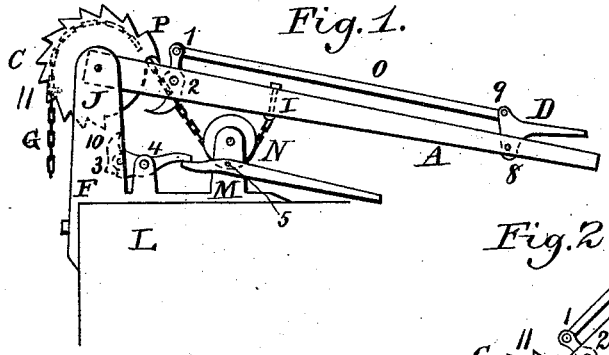


Fig. 2.

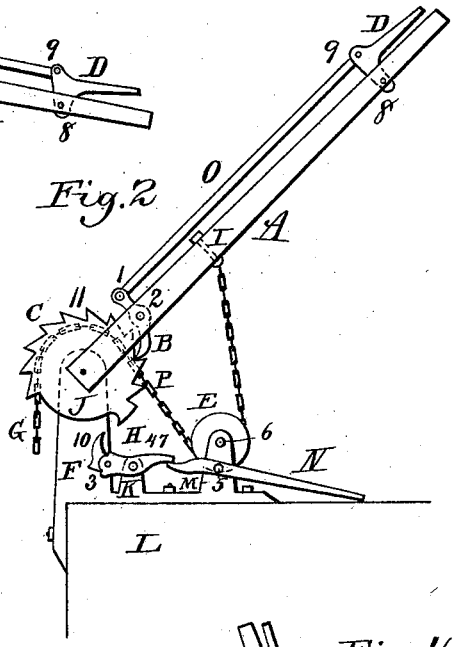


Fig. 6.

Fig. 3.

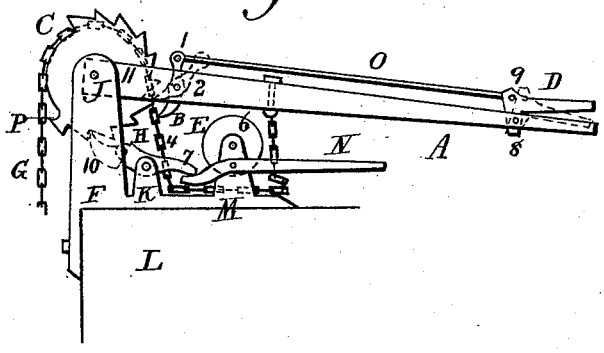


Fig. 4.

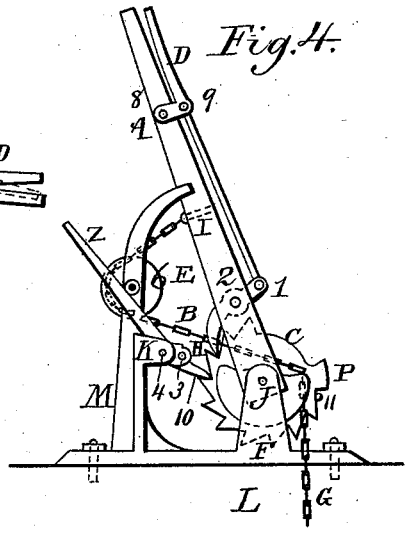
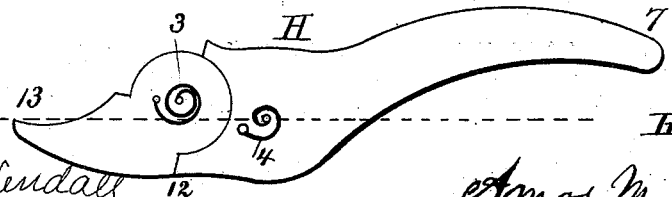


Fig. 5.



Witnesses
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AMOS M. KENDALL, OF CHICAGO, ILLINOIS.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 418,725, dated January 7, 1890.

Application filed November 7, 1889. Serial No. 329,571. (No model.)

To all whom it may concern:

Be it known that I, AMOS M. KENDALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Car-Brake, of which the following is a specification.

My invention relates to improvements in car-brakes; and the objects aimed at are quickness of action, ease of operation, safety to life, together with development of power, all of which I attain as shown by the accompanying drawings, in which—

Figure 1 is the entire brake when not in use. Fig. 2 is the same when being set with lever raised and standards removed to give a better view of the mechanism. Fig. 3 is the brake when set. Fig. 4 is the same in principle, but different in construction, to be used on flat or coal cars, and by slight changes in construction can be applied to any car and still use the same principle. Fig. 5 is the pawl or dog used, with cap removed to show the coil-springs. Fig. 6 is a ratchet-wheel and pulley combined.

Similar letters or figures refer to the same parts throughout the different views.

A is the lever.

B is a pawl.

C is a combined ratchet-wheel and grooved pulley, as shown in Fig. 6.

D is a short or hand lever attached to main lever at 8.

E is a grooved pulley, which revolves on bolt 6 and supported by standards M.

F is the main standard, which supports the combined ratchet-wheel and grooved pulley C and lever A by gudgeons at J.

G is the chain, which is attached to the lever A at the point I, and passes under pulley E, then over pulley C, and is attached to the same with a bolt at I I, thence downward and is attached to the brake under the car.

H is a pawl or dog, (shown more fully in Fig. 5,) which is attached by bolt at 4 to standard K, on which it works free.

L is the top of the car.

The operation is as follows: By raising the lever A in Fig. 1 to the position as shown in Fig. 2—and as the lever rises the distance between the point I on the lever and the pulley E increases—it draws up the chain G, which causes the ratchet-pulley to revolve backward and takes up the slack of the chain. Then press down the small hand-lever D, which is attached to the pawl B by the rod O at 1 and 9, which presses the pawl B into the notches in ratchet-wheel C. Then bring down the lever A to the position as shown in Fig. 3, the chain G being attached to the ratchet-pulley at I I, which keeps the same from slipping. The slack of the chain is left under the lever, as shown in Fig. 3, and the dog H then holds the brake set. In letting off the brake, first raise the hand-lever D. I prefer to do this by means of a coil-spring inserted into the joint of pawl B at 2, of sufficient power to raise the hand-lever and remove the pawl from the notches as soon as the operator lets go of the lever. Then press the foot on the lever N, which is bolted to the standard M at 5 with a loose joint, and the point pries under the end of the dog H at 7 and lifts the same, which is attached to the upright K by loose joint, which movement lowers the joint 3 and allows the pawl 10 to revolve on the joint 3, which lets the ratchet-wheel revolve and loosen the brake. Fig. 5 shows the peculiar construction of the dog H. The dotted line, being the line of pressure running from joint 4 to the point of the pawl 13, which is the point of pressure, passes a little below the center of the joint 3, so that the inclination of the joint would be to force its way upward when pressed upon by the ratchet-wheel; but the stop-shoulder at 12 will not admit of its going farther in that direction. Then by raising the end of the dog 7 it forces down the joint 3 until it passes the line of pressure, when the pressure of the brake on the point 13 will force the joint 3 downward, the point 13 following the circle of the ratchet-wheel, freeing the brake entirely. The coil-spring in joint 4 is adjusted to press the joint 3 upward toward the ratchet-wheel, and the coil-spring in the joint 3 presses pawl 13 outward and against the ratchet-wheel, and when the brakeman sets the brake the point 13 is forced into the reverse notch P, which forces it to its proper position. The same dog can be used for loosening any brakes without the use of springs, and can be used on old-style brakes. Fig. 4 is the same applied to flat or coal and other cars where this brake is re-

quired, the construction being different, yet the same in principle. In this form the standard M, that supports the pulley E, is carried upward on a curve and forms a support for the lever A. A section of pulley C is removed, so as to give additional weight to the opposite side to assist in taking up the slack of the chain, as when the brake is set the heavy side is up, and when loosened assists the short chain below in pulling the slack chain above. In operating, bring the lever to the right and downward until the slack is taken up. Then grasp the hand-lever and press the pawl B into the notches in ratchet-wheel C. Then raise the lever until the brake is set. In letting off the brake, move dog-lever N toward lever A.

Letters Patent having been issued to me on the 28th day of May, 1889, for car-brakes containing a combination of two pulleys for taking up the slack of the chain and setting the brake, I therefore disclaim in this invention anything therein set forth; but

What I do claim in this invention, and desire to secure by Letters Patent, is—

1. The combination of lever A, chain G, pulley E, and ratchet-pulley C, chain G being secured to lever A at I, then passing under pulley E, then over ratchet-pulley C, being attached to the same at 11, thence downward to the brake under the car, substantially as described.

2. A pawl for brake ratchet-wheels having a joint between the pivot 4 and the extremity 13, substantially as described.

3. The combination of the pawl B with sectional pulley C, having the reverse notch P, substantially as described.

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