

(No Model.)

A. FAHRNEY.
BRAKE FOR RAILWAY CARS.

No. 530,171.

Patented Dec. 4, 1894.

Fig. 1.

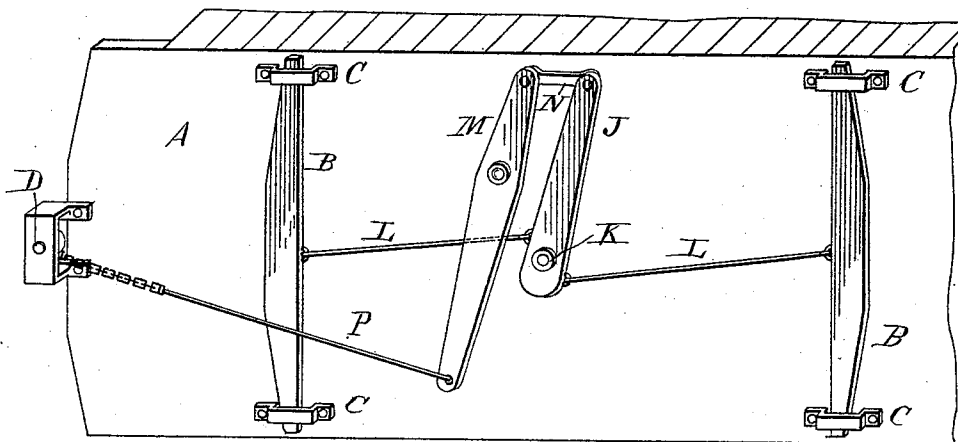


Fig. 2.

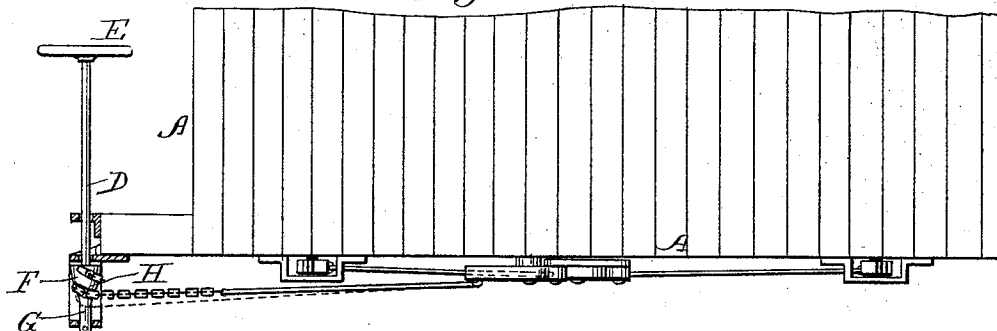
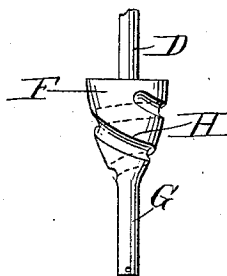


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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BRAKE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 530,171, dated December 4, 1894.

Application filed May 21, 1894. Serial No. 511,966. (No model.)

To all whom it may concern:

Be it known that I, ANDREW FAHRNEY, a citizen of the United States, residing at Milledgeville, in the county of Carroll and State of Illinois, have invented certain new and useful Improvements in Car-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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has reference to improvements in brakes for railroad cars, although with certain obvious changes, it can be applied to ordinary vehicles.

In setting the brakes on railroad cars, quite an amount of time is lost in taking up the slack of the brake chain and beams. There is of course no resistance on the brake block, and no need of any special force, until the brake block or rubber has come in actual contact with the periphery of the wheel. In the movement of the train with the brakes loosened, the jar shakes the brake block back from the wheel, and necessarily slackens the draft chain. In case of an unexpected demand for an immediate setting of the brake, it is the usual experience that most of the time employed in setting the brake is consumed or lost in taking up the slack. This slack is wound on a small iron shaft, which has a small transverse diameter so as to give the operator enough leverage on the brake block to enable him to tighten the latter with sufficient force against the rim of the wheel; but the smallness of this shaft is a disadvantage in taking up the slack of the brake chain, as it necessitates so many rotations of said small shaft.

In my invention, I utilize a winding drum of variant diameters, on the larger end of which I take up the aforesaid slack of the brake chain, and on the smaller portion of which I exert the final draft of the brake block against the wheels. It will be seen therefore, that while the brake block is being drawn to the wheel, and while there is no necessity for the exercise of any power beyond that required to simply move the brake block, the

winding of the draw chain being upon the larger portion of the winding shaft, the aforesaid movement of the brake block is very rapid and effected by the exercise of but little power, but when the brake block has come into actual contact with the periphery of the wheel, and when said block is required to be forced against the rim of the wheel with all the power obtainable, then the draft chain is wound upon the smallest portion of the drawing or winding shaft, when and where the maximum of the leverage on said shaft is attained.

To still further increase the pressure of the brake block when in contact with the periphery of the wheel as aforesaid, I attach the draft chain to the long end of a lever suitably seated under the car box, and connect the short end of said lever with the long end of a second lever likewise pivoted on the under side of the body of the car, and suitably connected at each side of its pivotal seat, by means of short draw rods, to the transverse beams which carry the brake blocks. I attain the advantages aforesaid by the construction illustrated in the accompanying drawings, in which—

Figure 1—is a perspective of the lower side of a railroad car provided with my invention. Fig. 2—is a side elevation of same; and Fig. 3 is a plan view of the portion of the draw-shaft on which the end of the brake chain is wound.

Similar letters refer to similar parts in each view.

As my invention is applicable to any form of car, and the form and general construction of the latter are well known, I do not deem it necessary to show or describe the same further than is necessary to exhibit the location, construction, and operation of my invention.

A. is the floor of a car to the under side of which are attached the transverse brake bars B B. which are supported and carried in the usual loops or stirrups C C. attached to the lower side of the car and having sufficient openings to permit of the necessary movement of the bars B forward and back in the line of the car.

D. is a vertical draw shaft suitably journaled vertically at one end of the car and provided at its upper end with a crank or the

usual hand wheel E. The upper operative portion F of the shaft D is of greater diameter than the residue G of the operative portion of said shaft, and in the portion F of said shaft, there is formed a spiral groove H terminating at its lower end on the upper end of the periphery of the part G.

A short horizontal lever J is pivoted near one end to the lower side of the floor A. and connected at each side of its pivotal point K by means of arms L L to the brakes B B. An additional lever M is pivotally seated on the under side of the floor A in front of the lever J substantially parallel with the latter, but the lever M is placed reversely to the lever J, in that the short end of lever M is adjacent to the long end of lever J, and the short end of the lever M is pivotally connected to the long end of lever J by means of a link N.

A chain P is connected to the long end of the lever M and extended forward and connected to the large end F of the shaft D at the upper end of the groove H therein, and thus adapted in the rotation of shaft D to be wound in the groove H, and to take up the aforesaid slack and bring the brake blocks against the rim of the wheel when the chain P has passed down the groove H unto the small portion G of the shaft D. The further rotation of the shaft D, seats the brake blocks against the rim of the wheels with any desired force, inasmuch as the leverage exerted on the shaft D is applied to the long end of the lever J through the intervention of the lever M so that the power exerted by the shaft D is doubled by being exerted

through the lever M and thereafter again largely increased through the leverage quality of the lever J.

The advantages of my invention are that it takes up the slack in the apparatus very rapidly, and affords means for pressing the brake blocks against the wheels with any desired degree of rigidity, and with the exercise of but a comparatively small amount of force.

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

In a car brake, the combination, with the body of the car, of the bars B B movably secured to the under side thereof, levers J and M pivotally secured to the car substantially parallel with each other, the pivotal point of said levers being each nearer one end than the other and the short end of the lever M being connected with the longer end of the lever J by means of the link N, a shaft seated at one end of the car and adapted to be rotated, two arms, L, L secured to the lever J, one upon each side of its pivotal point and each being connected at its opposite end with its respective bar B, and a chain P connecting the longer end of the lever M with the brake shaft D, substantially as set forth.

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

ANDREW FAHRNEY.

Witnesses:

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ABRAM L. KREIDER.