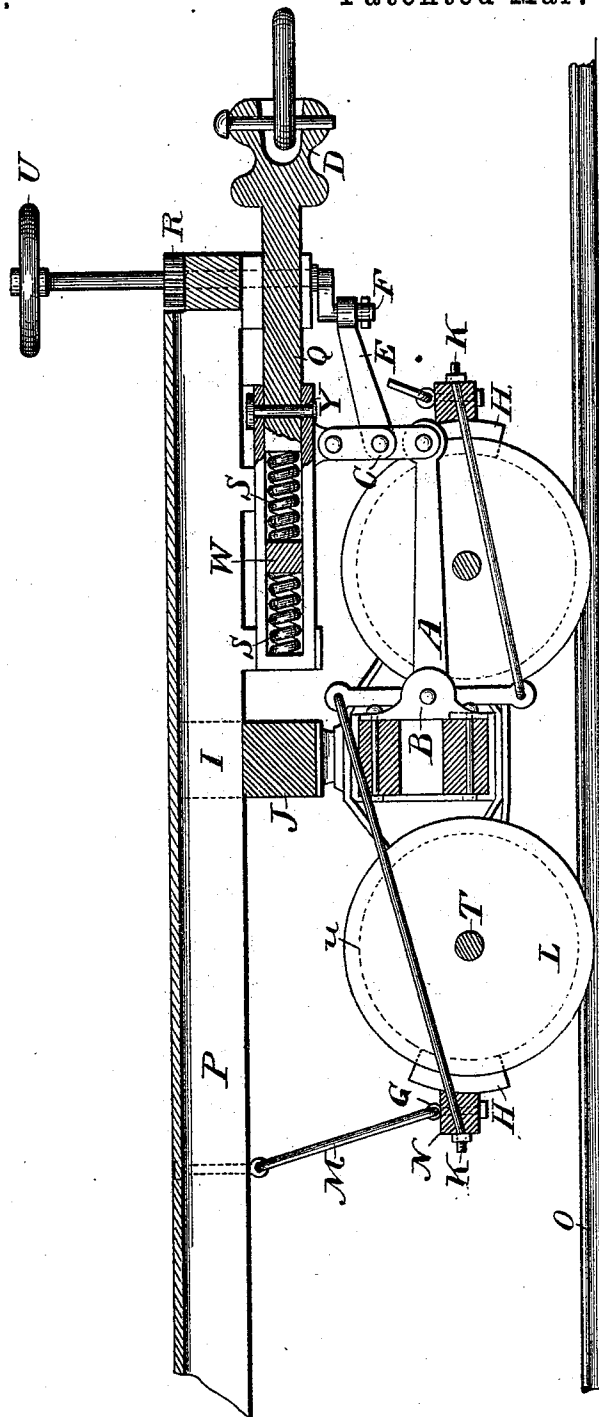


(No Model.)

C. LEACH.
CAR BRAKE.

No. 516,684.

Patented Mar. 20, 1894.



Witnesses:

Bert Lambert
Mary M Leach

Inventor:

Cambden Leach

UNITED STATES PATENT OFFICE.

CAMBRETON LEACH, OF SUPERIOR, WISCONSIN.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 516,684, dated March 20, 1894.

Application filed March 7, 1893. Serial No. 465,049. (No model.)

To all whom it may concern:

Be it known that I, CAMBRETON LEACH, a citizen of the United States, residing in Superior, Douglas county, State of Wisconsin, have invented a new and useful Car-Brake, of which the following is a specification.

My invention relates to improvements in the manner of braking cars for the purpose of stopping them when they are moving, and is operated in conjunction with the draw head and engine drawing or pushing the car or train of cars, and may be operated by hand, the mechanism being so constructed that the brake is a continuous one retaining its friction upon the wheels at all times, except when it is thrown off by hand, or the engine is pulling or pushing the car or train. I attain these objects by the mechanism illustrated in the accompanying drawing, in which
20 profile is a vertical section of about one third of what is usually termed a flat freight car, with the wheels resting upon a section of a rail.

The letters refer to the different parts of the section.

"A" is the angle arm and a part of the invention held in horizontal position by the guard "B" which is bolted to the cross girders of the truck of a car.

30 "C" is a clip connected with the angle arm at the lower end, and to a flange on the draw bar at the upper end, and to the crank arm "E" in the middle.

"D" is the draw head which when drawn out four inches, or shoved back four inches forces the clip "C" with the aid of the crank arm "E" to raise the end of the angle arm "A" thereby releasing the straining rods "K" and loosening up the brakes on the wheels.
40 The draw head is held in position when not pulled or pushed by the engine, by the two spiral springs "S S."

"F" is a crank attached to the arm "E" and by which, with the aid of the arm "E" coupled to the center of the clip "C," the brake may be thrown off or put on by hand by turning the wheel "V."

"G" is a cockeye by which the brake beam is suspended in the usual manner.

50 "H" is the usual brake shoe.

"I" is the usual wooden girder of the car frame.

"J" is the usual wooden bolster.

"L" is a car wheel.

"M" is the usual rod suspending the brake 55 from the car frame.

"N" is the usual brake beam.

"O" is a section of a track rail.

"P" is a section of the main timber running lengthwise in the frame of the car. 60

"Q" is the draw bar.

"R" is a cog-wheel by which a dog holds the crank "F" in any position required for the purpose of adjusting the brake, so that it has a greater or lesser friction upon the 55 wheel as emergencies may require.

"S S" are spiral springs shipped in a heavy iron clevis, made rigid to the draw bar "Q" and resting on either side of the center iron girder "W" and held in position by the end 70 of the clevis and a heavy rivet and the shoulder of the draw bar.

The machine consists of the angle arm "A," the guard "B," the clip "C," crank arm "E," crank "F," the flange to the draw bar, the 75 form of the draw bar, together with the necessary bolts for coupling up the several parts and holding them in position.

The principle involved in this invention is one that admits of cars being braked and the 80 brakes released by an engine pulling or pushing the draw head, and makes it possible for an engineer in pushing or pulling his train to control the brakes on all the cars at his own will without the aid of another person. 85

The object sought by this invention is to prevent trains from running away also to prevent any part of a train, if a coupling should break while going up grade, from running 90 backward and crashing into trains following it, to prevent cars from striking hard against each other when being kicked back for the purpose of making up trains in road yards. The theory involved is one that makes it possible for all brakes to be on all cars of the 95 train the moment the engineer should sight danger ahead and slack up his engine thus making it possible to stop a train under full headway in about one third of the distance usually required with other brakes. It also 100

provides for locking a loaded car tighter than an empty one when both are running together in the same train by its own natural adaptation. It also provides an easy and simple manner of constructing brakes at a moderate cost, so they can be readily adjusted as a shoe is worn away by friction. It prevents the necessity of locking a wheel dead thus preventing the usual flattening of a car wheel.

10 I am aware that draw heads are now used whereby cars are coupled and drawn. I am also aware that spiral springs are now being used on draw heads for other purposes than the one embodied in the construction of my

15 braking machine. Also the usual brake beam and shoe. I do not therefore claim them as

any part of my invention but, that my invention may be readily connected with the usual draw head having a spiral spring by attaching a flange to which the clip "C" 20 may be coupled.

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

The combination with the draw bar "Q," of the coupling "C" the angle arm "A," the 25 crank arm "E," the crank "F," the guard "B," and the straining rods "K" all substantially as and for the purpose described.

CAMBRETON LEACH.

Witnesses:

WM. NOONAN,
D. E. ROBERTS.