PEASE & SKINNER.

Car Brake.

No. 98,621. Patented Jan. 4, 1870.

Fig. 1

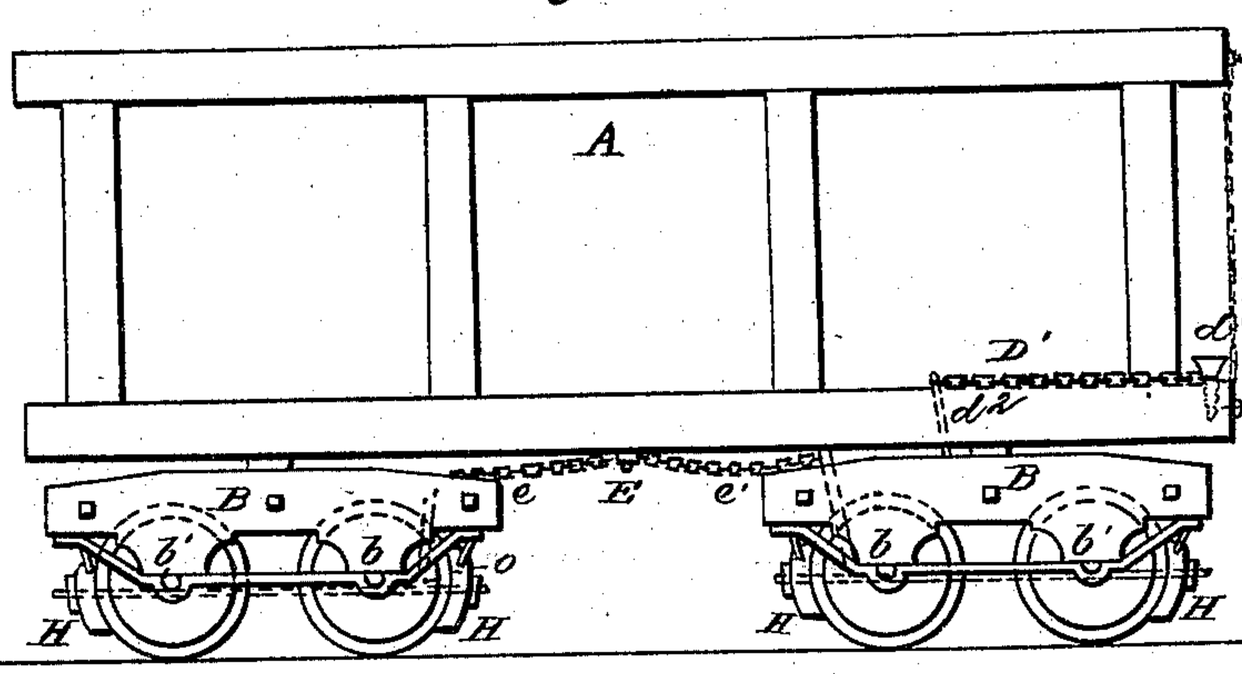



Fig. 5

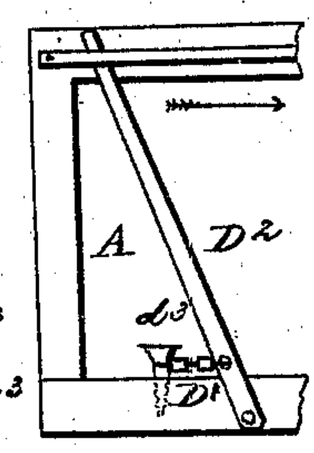



Fig. 2

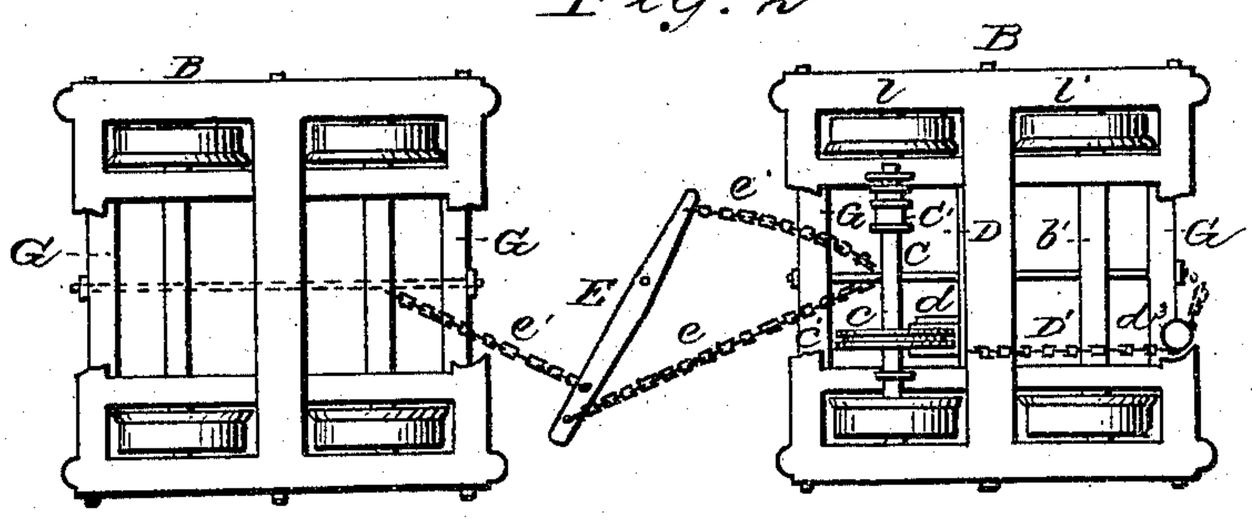



Fig. 3

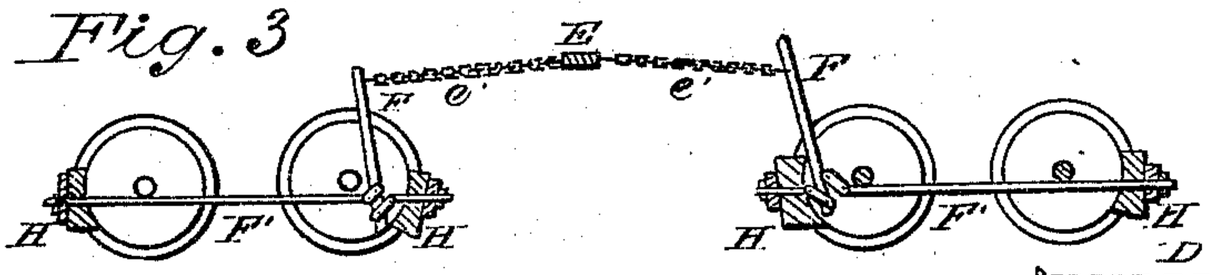



Fig. 6

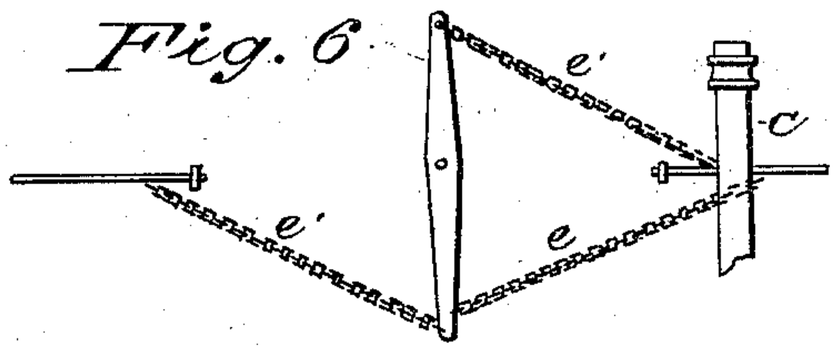
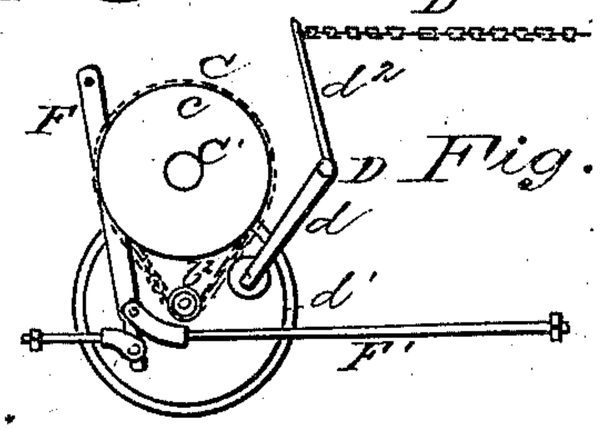



Fig. 4




Witnesses

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# United States Patent Office.

O. S. PEASE, OF XENIA, AND L. E. SKINNER, OF CINCINNATI, OHIO.

*Letters Patent No.* 98,621, *dated January* 4, 1870; *antedated December* 24, 1869.

## IMPROVED RAILWAY-CAR BRAKE.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern.:*

Be it known that we O. S. PEASE, of Xenia, in the county of Greene, and State of Ohio, and L. E. SKINNER, of Cincinnati, in the county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Railroad-Car Brakes; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a side view.

Figure 2 is a bottom view.

Figure 3 is a horizontal sectional view, showing a portion of the operating-mechanism.

Figure 4 is a horizontal sectional view, showing the arrangement of endless chain and pressure-pulleys.

Figure 5 is an end view, showing arrangement of lever and chain that operates the pressure-pulley.

Figure 6 is a plan view, showing the position of lever, roller, and chains, when the brake is on.

The nature of our invention consists in securing, on a suitable bearing-bolt or pin, on the under side of the central timber of the car, a horizontal lever. This lever has attached to its outer ends, chains running in different directions, and through rods these chains are connected with the brake-bars at the opposite ends of the cars. There is also secured to this lever another chain, which is attached to a roller resting in suitable bearings immediately above the inner of the rear axles. This roller is connected by means of endless chains and pulleys with said axle. The endless chain, by a roller, is rendered taut at any moment, which imparts motion to the roller, which in turn winds the chain that is attached to the horizontal lever, and thus operates the entire mechanism.

Our invention also consists in securing on the roller to which the chain is attached which works the lever, and the chains and rods that operate the brake-bars, an adjustable spring, whereby the pulleys over which the endless chain passes can always be kept in line, no matter to how great a degree the metal may be affected by expansion or contraction produced by atmospheric action or other causes.

To enable others skilled in the art to make and use our invention, we will now proceed to describe its construction and operation.

A is the frame-work of the body of the car, and is constructed in the usual manner.

It is secured on two trucks, B B, by means of king-bolts, or other equivalent device.

On the under surface of these trucks, at proper distances, and in suitable bearings, are secured axles $b$ $b^1$ and $b$ $b$, two in each. On the axle $b$, which is the forward one of the rear truck, we secure a pulley, $b^2$.

Immediately above this axle, and parallel thereto, we secure, in suitable bearings, a shaft, C.

On this shaft, and at a position exactly above the pulley $b^2$, we secure a pulley, $c$.

Over these pulleys, $b^2$ and $c$, we pass an endless chain, band, or other equivalent device, $c'$. The length of this endless chain is such that the axle, except when the brake is desired to be applied, revolves freely without imparting motion to either the shaft C or pulley $c$.

On this shaft C, on the side opposite to the one to which the pulley $c$ is secured, is a shoulder, against which rests a spring, C'. This spring C' is controlled by means of plate and screw-nut, and may be made of rubber, or the ordinary coil, or any other spring may be used that will accomplish the object, which is to keep the pulley $c$ always in line with the pulley $b^2$, no matter to how great a degree the metal may be affected by expansion or contraction produced by atmospheric action or other cause.

Immediately in the rear of the shaft C, and on the face of the central cross-piece of the truck, is secured a rod, D.

From this rod D descend two bearing-plates $d$ $d$, between which is secured a pressure-pulley or roller, $d^1$.

To this rod D is also secured an upright arm, $d^2$, which, by means of a chain, $D^1$, is connected with a lever, $D^2$, by which it is worked, said lever being secured on the platform of the car.

There is also secured on the platform or other portion of the car, and on a line with the upright arm $d^2$, a grooved shoulder or pin, $d^3$, around which the chain $D^1$ passes before reaching the lever $D^2$, and around which the chain is drawn when the pressure is applied.

To the shaft C there is attached one end of a chain, $e$.

The other end of this chain is attached to a horizontal bar or lever, E, which works on a suitable bearing-bolt, secured on the under side of the central horizontal timber of the car.

To this lever E are also secured two chains $e'$ $e'$, as is clearly shown in detail in fig. 6. These chains are secured at such points on the lever, one chain being secured on each side of its bearing-bolt, that they are effected by its opposite draught.

These chains $e'$ $e'$ are attached to upright levers F F, which are fulcrated in bent bearings, secured on the ends of the rods F' F'.

These rods F' F' are secured by means of screw and nut, or other equivalent device, to brake-bars G G.

Each of these brake-bars G G is provided with two brake-shoes H H.

The operation is as follows:

The brake-lever $D^2$ is in the position shown in fig. 5, the brakes being all "up." To apply the brake, you simply have to move the lever $D^2$ in the direction in-

dicated by the arrow, and this will cause the chain $D^1$, through the upright arm $d^2$, to revolve the rod a sufficient distance to throw, with immense pressure, the pulley or roller $d^1$ against the endless chain $c'$, which will become immediately locked. So soon as it is locked, the momentum of the car will revolve the shaft C.

This revolution of the shaft C will wind the chain $e$, which, in turn, drawing on the lever E, causes the chains $e'$ $e'$ to work the upright arms or levers F F, which, drawing on the rods F' F' in opposite directions, will force the brake-bars toward the wheels, bringing one of the brake-shoes H in contact with each wheel.

Having thus fully described our invention,

What we claim therein as new, and desire to secure by Letters Patent of the United States, is—

1. The shaft C, when the same is provided with an adjustable spring, C', pulleys $c$ $b^2$, endless chain $c'$, and pulley or roller $d^1$, when the same are so combined and arranged as to operate substantially as described, as and for the purpose specified.

2. The shaft C, chain $e$, lever E, chains $e'$ $e'$, upright levers F F, rods or arms F' F', when the same are so combined and arranged as to impart simultaneous motion to the brake-bars and shoes, substantially as described, as and for the purpose specified.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

O. S. PEASE.
L. E. SKINNER.

Witnesses:
EDWIN JAMES,
EDM. F. BROWN.