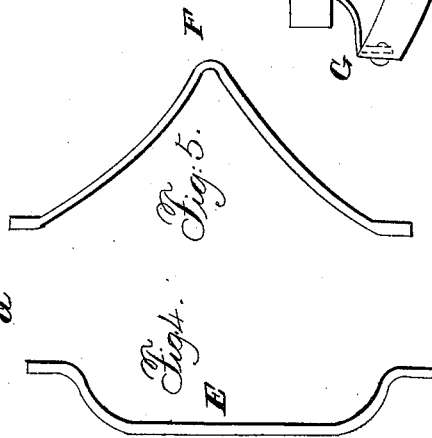
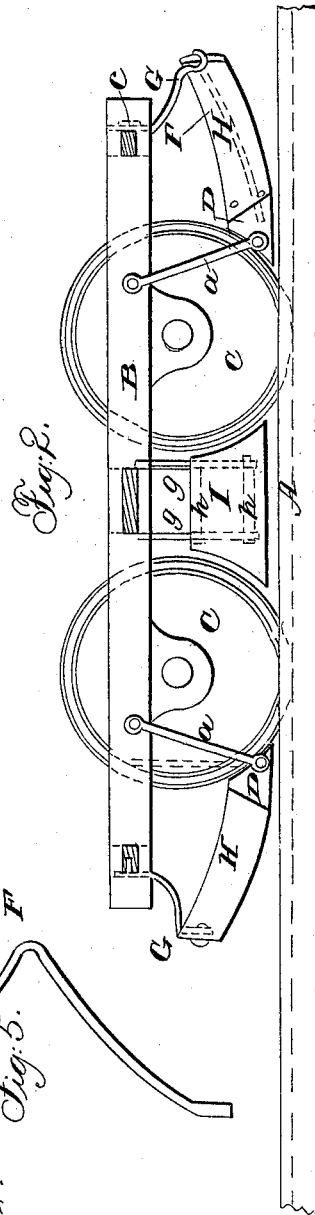
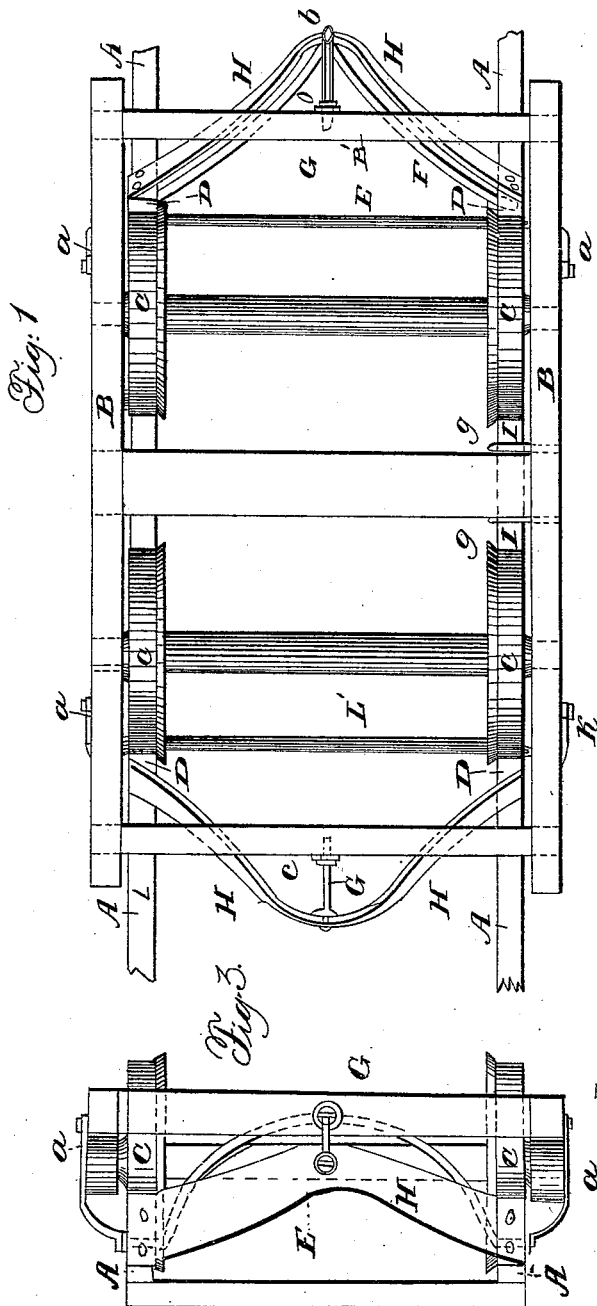


J. HARTMAN, Jr.

Car Brake.

No. 51,715.

Patented Dec. 26, 1865.



Witnesses:
Stephen Votick
David W. Esquivel

Inventor:
Jno Hartman Jr

UNITED STATES PATENT OFFICE.

JOHN HARTMAN, JR., OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED AUTOMATIC CAR-BRAKE.

Specification forming part of Letters Patent No. **51,715**, dated December 26, 1865; antedated December 14, 1865.

To all whom it may concern:

Be it known that I, JOHN HARTMAN, JR., of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Automatic Car-Brakes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a top view of a brake-frame with the improved brake attached thereto. Fig. 2 is a side elevation of the same. Fig. 3 is an end view of the same. Fig. 4 is a top view of the bar E, and Fig. 5 is a top view of the bar F.

Like letters in all the figures represent the same parts.

The nature of my invention mainly consists in constructing a brake with a sheet of india-rubber, or other equivalent substance combined therewith, in such a manner as to move any object, such as a man or animal, off of the track with less injury to the former than is done with the ordinary brakes; and also in making the resistance operate the brake.

To enable others skilled in the art to which my improvement appertains, I will proceed to describe its construction and operation.

A A represent the rails of a track. B represents a brake-frame proper, with which the brake arrangement is connected, and to which the journal-boxes are rigidly attached, the said frame being independent of the car-body, to prevent the springing movements of the latter affecting the operations of the brake. C C C C are the wheels. D D D D are check-blocks of the brake.

I will now describe the arrangement at one end of the frame B, that at the other end usually being like it.

The check-blocks D D are suspended a short distance above the rails A A by means of the rods *a a*, which are attached at their upper ends to the sides of the brake-frame B, and at their lower ends to the said blocks by means of screw-bolts, which have an easy fit in the eyes of the rods, to allow a free movement of the latter. The blocks D D have a lateral support by means of their permanent connection with the ends of the rod E. The said rod is

turned upward in its middle part far enough to clear any ordinary object which may be lying between the rails A A. The ends of the rod are firmly secured in the check-blocks by means of nuts, or in any other convenient manner. There is a bent-rod, F, which is secured at its ends to the blocks in the same way, and is supported at its middle part by the suspension spring-rod G, by resting in the hook *b* on the lower end of the same, the said rod G having its upper end secured to the cross-piece B' of the frame B by means of the bolt *c*.

H is a sheet of india-rubber, or other equivalent material, so arranged as to have its middle part a sufficient distance above the track to clear any ordinary obstructions between the rails. I contemplate dispensing sometimes with the sheet H, and, by means of additional springs in lieu of it, to arrange cushions in a permanent manner on the front edges of the blocks D D, the said cushions to have curved or angular directions corresponding to the ends of the sheet H, so as to make them act in a similar manner to the said sheet.

The operation is as follows: The sheet of india-rubber H being elevated at its middle part, as represented in the drawings, (see Fig. 2,) as the car approaches any object which lies between the rails the sheet clears it in its passage over it; but its ends being so arranged as to nearly touch either rail any object which may be lying on one of them is turned off of the same, in consequence of the curved or angular position of the ends of the sheet, and the injury to the said object, whether it be man or animal, is materially lessened by the yielding nature of the rubber. Besides the direct action of the sheet H upon the object of resistance, the weight of the latter bearing against the check-block D causes it to bear against its respective wheel C with a force corresponding to said weight, and consequently to impede the speed of the car. The arrangement of the rods F and G is such as to increase the elasticity of the brake, and consequently to lessen the liability of loss of life.

A modified form of the brake is represented at the other end of the truck. The arrangement is essentially the same as that above described with this difference, that the bent-rod

F is dispensed with and the curvature of the rod E is increased to compensate in some degree for the omission of the bent-rod F.

I is a guard between the wheels C C at one side of the brake-frame B. In practice I have a similar one on the other side. The said guard is suspended in its position by means of the rods *g g*, the said rods, by means of their turns at their upper ends, being confined at that end to the sides of the brake-frame B. The bars *h h* are made fast to the inside of the guard, and have eyes on their ends, which fit loosely on the rods *g g*, there being elbows on the lower ends of the said rods, which catch under the lower bar, *g*, to keep the guard a little elevated above the rail A. The weight of the guard keeps it in its ordinary position; but if it should happen to strike any object which is lying on the rail it is allowed to move upward, so as to pass over it in consequence of its free connection with the rods *g g*, as described.

Having thus fully described my improvement in automatic car-brakes, what I claim

therein as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the check-blocks D with the brake-frame B by means of the suspension-rods *a a* and G, the journal-boxes being rigidly attached to the said frame, and the whole being arranged and operating substantially in the manner and for the purpose above set forth.

2. Combining and arranging the india-rubber sheet G, or its equivalent, with the check-blocks D, substantially in the manner and for the purpose set forth.

3. The combination and arrangement of the guards I with the brake-frame B by means of the suspension-rods *g* and bars *h*, or their equivalents, substantially as described.

In testimony that the above is my invention I have hereunto set my hand and seal this 2d day of August, 1864.

JNO. HARTMAN, JR. [L. S.]

Witnesses:

STEPHEN USTICK,
DAVID W. EAKINS.