T. L. SEEVERS & J. JELFS.

Car-Brakes.

No. 196,047. Patented Oct. 9, 1877.

Fig. 3.

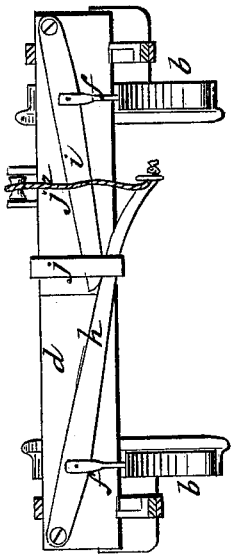


Fig. 4.

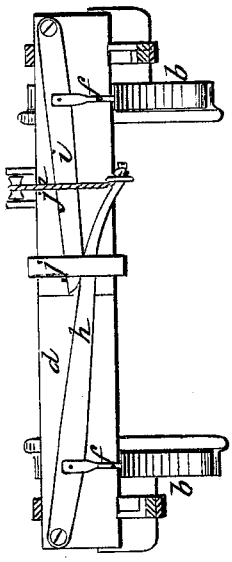


Fig. 1.

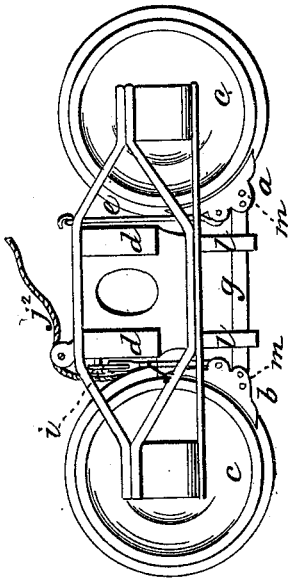
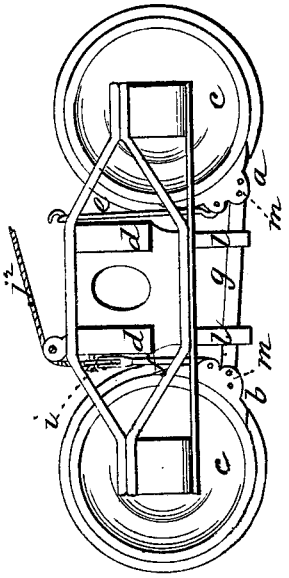


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

THEODRICK L. SEEVERS AND JOHN JELFS, OF MARSHALLTOWN, IOWA.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **196,047**, dated October 9, 1877; application filed July 2, 1877.

To all whom it may concern:

Be it known that we, THEODRICK L. SEEVERS and JOHN JELFS, of Marshalltown, in the county of Marshall and State of Iowa, 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 thereof, which 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.

This invention relates to that class of brakes in which the shoes are suspended for action upon the wheels, near the rails, without brake-beams, and in which the power is applied by hand.

Durability in construction and quickness in applying the brake to the wheels, are important matters in railroad-car brakes adapted for hand operation. These advantages are effected by a new construction and combination of brake devices, in which the shoe-connecting levers operate in a peculiar manner to apply, by a direct vertical pulling force, the brake-shoes to the wheels of one axle, and by a horizontal thrusting force to the wheels of the other. Said brake-shoes are, by means of connecting-bars, caused to bring the opposite brake-shoes into action against the opposite axle-wheels. This action gives a more powerful and direct force than when all the brake-shoes are operated alike—that is, with a force in the same direction.

In our improved plan the shoes of the wheels of one axle are pulled upward against the treads of such wheels, and this action forces the opposite brake-shoes with a sort of diagonal thrust or pushing force against the wheels of the opposite axle.

The operating-levers are arranged at one side of the middle truck-beams, so that the free end of one rests upon that of the other, and is raised and lowered with it in raising and lowering the brake-shoes connected with said levers, while the other brake-shoes are suspended at the opposite side of said middle truck-beams, and have no rising and falling movement. By this construction the levers only operate to apply the brake-shoes to the wheels of one axle, and these brake-shoes operate, in a different manner and at the same time, to apply the other brake-shoes through horizontal connecting-bars, with a quick and powerful action.

Safety-straps are combined with these shoe-connecting bars, to prevent the falling of the shoes in the event of the breaking of the pivot-connections of the parts.

In the drawings, Figure 1 represents a side view of a railroad-truck with our improved brake applied thereto; Fig. 2 a similar view, showing the brake-shoes on; Fig. 3, the operating-levers and their connections with the brake-shoes; and Fig. 4, a similar view, the levers being drawn up as in applying the brakes.

The brake-shoes *a b* are adapted to operate between the truck-wheels *c c*, below the truck-beams. They are suspended in proper positions from the truck-beams *d d* by links *e f*, and a horizontal bar, *g*, connects these shoes at points below or near the pivot-connections of the links, and in a manner to maintain said shoes in proper relation with the under portions of the wheel-treads below said beams.

The links *e*, on one side of the beams, serve simply to suspend their connected brake-shoes *a*, while the links *f*, on the opposite side of the beams, serve to connect the shoes *b* with levers *h i*, pivoted at their outer ends to one of the beams, and, extending along the side thereof, pass through a loop, *j*, so that one of said levers, *i*, rests upon the lever *h*, and the free ends of the levers are held in place without fixed connections. The free end of the lower lever *h* has a chain-connection, j^2, with the brake-standard or platform-wheel, and this end of said lever acts like a cam, when raised by the chain, to raise the end of the upper lever *i*, and by means of the lever-links *f* draw up the brake-shoes *b b* equally against the treads of the wheels.

There is no such movement, however, of the opposite brake-shoes *a*; but a horizontal force is exerted upon them to bind them hard upon the wheels. This is effected by the action of the horizontal bars *g* and the lifting of the lever-connected shoes *b* up under the treads, which must force said bars endwise and carry

the other shoes *a* hard against the wheels. In this way the wheels of one axle serve to apply the brake-shoes to the other wheels.

In such operation it is necessary that the pivot-connections of the brake-shoes, with their suspension-rods, should have proper relation with those of the horizontal bar, and the length of the latter must be such as to hold the brake-shoes in under the wheel-treads with sufficient play or room to allow said shoes, by their own weight, to stand away from the wheels when not in action, as in Fig. 1.

Safety-straps *l*, depending from the truck-beams, embrace the horizontal bars, and serve to hold them and the brake-shoes up in case any of the connections should give way.

The pivots of the brake-shoes are made in ear-projections on their outer sides, the lower ones being provided with two or more holes, *m*, for the purpose of allowing the brake-shoes to be adjusted to compensate for wear. The brake-shoes are of any suitable construction.

The brake-chain works over suitable rolls, by which it is also held in place, and the pulling up of the lower lever by the chain applies all the brake-shoes at once. The unwinding of the chain causes the levers to drop down of their own weight, and thus take off the brake-shoes, as in Fig. 3.

We claim—

1. The combination, with the brake-shoes *a*, suspended from the truck-beam on one side, of the connecting-bar *g* and the brake-shoes *b*, suspended from the levers on the other side of said beams, said levers passing through a guide-loop at the middle of the beams, so that one rests upon the other, with the lower lever as the acting element in applying the brakes, as set forth.

2. The combination, with the brake-shoes and their connecting-bar, of the depending safety-straps, as set forth.

3. The brake-shoes of one set of wheels of a car-truck, in combination with the brake-shoes of the other, and horizontal bars pivoted thereto, arranged in such manner that the direct lifting action of the one set of shoes gives a horizontal thrusting force to apply the others, substantially as described.

In testimony that we claim the foregoing we have affixed our signatures in the presence of two witnesses.

THEODRICK L. SEEVERS.
JOHN JELFS.

Witnesses:
ROBT. BINFORD,
OLIVER L. BINFORD.