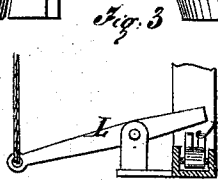
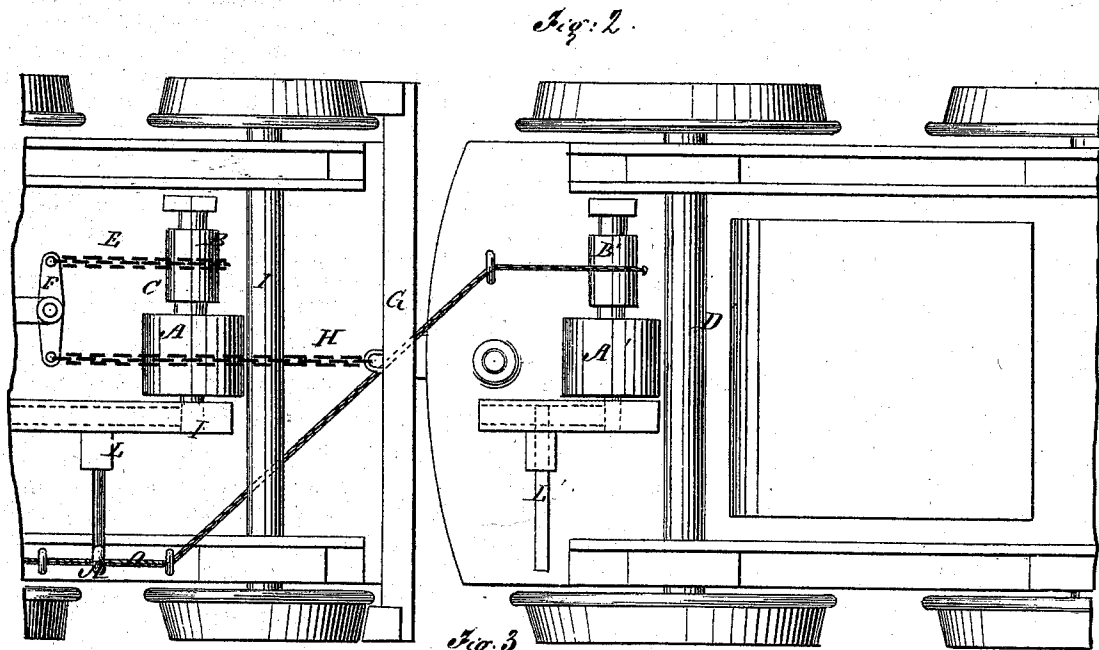
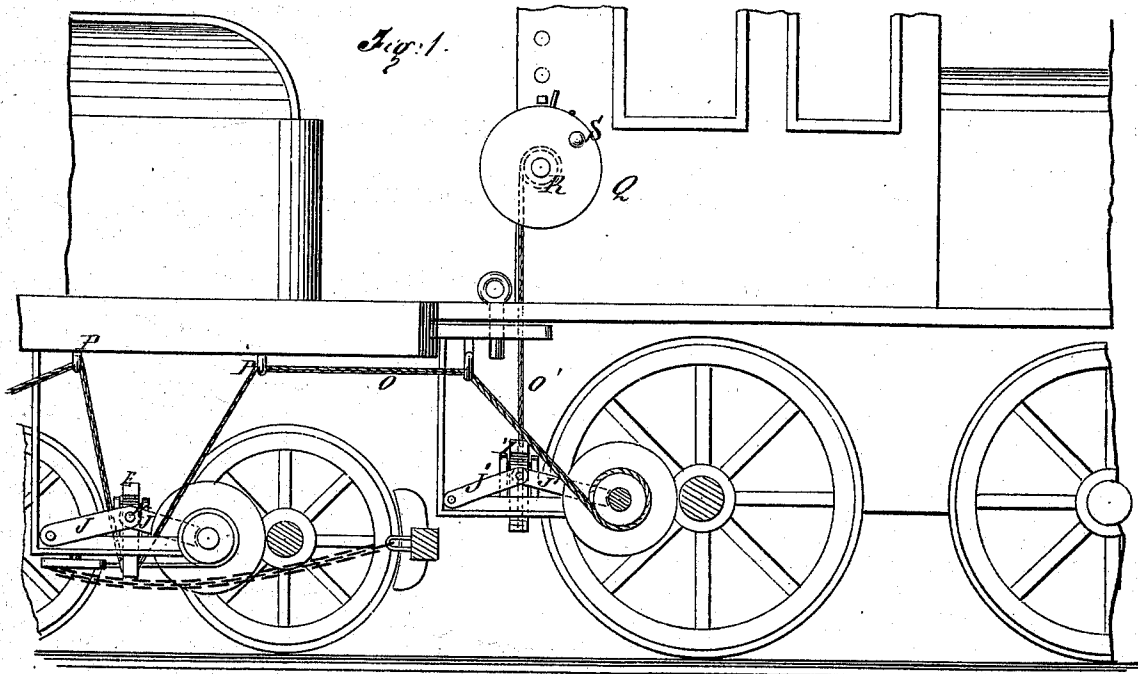


J. S. LAMAR.
Improvement in Railway-Car Brakes.
 No. 129,968. Patented July 30, 1872.



Witnesses:

Chas. Nida
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UNITED STATES PATENT OFFICE.

JAMES S. LAMAR, OF AUGUSTA, GEORGIA.

IMPROVEMENT IN RAILWAY CAR-BRAKES.

Specification forming part of Letters Patent No. 129,968, dated July 30, 1872.

Specification describing a new and Improved Car-Brake, invented by JAMES S. LAMAR, of Augusta, in the county of Augusta and State of Georgia.

In my improved car-brake apparatus there are a friction-wheel and drum on each car, or it may be each truck, with the brake-chain connected to the drum, and with toggle-jointed bars and a lever for throwing the friction-wheel into gear with the axle to be turned for winding up the drum and putting on the brake; and the brakes of all the cars are connected, by a long cord or chain, with a drum on the locomotive or tender, which is also to be actuated by the axle, through the medium of a friction-wheel, and this friction-wheel is, in like manner, thrown into gear by a lever and toggle-jointed bars; but this lever is operated by the brakeman by a cord, rod, or other contrivance provided for the purpose, and arranged to be actuated in the cabin. The long cord connecting all the brake-levers is arranged in a peculiar manner, calculated to work with equal efficiency whether the car-couplings are slack and the cars are close together or whether they are taut and the train is extended to its greatest length.

Figure 1 is a longitudinal sectional elevation of part of a train with my improved brake apparatus applied. Fig. 2 is a plan of the bottom of the cars, and Fig. 3 is a cross-section through the toggle-jointed bars for throwing the friction-wheels in gear with the axles.

Similar letters of reference indicate corresponding parts.

A represents a friction-wheel, and B a brake-chain drum on a shaft, C, parallel with one of the axles, D, of a car-truck. E is a chain, attached to the drum B, to wind on and off, to move a lever, F, whose opposite end is connected with the brake-bar G by the chain H. This shaft C has one end arranged to slide in a bearing, I, toward or from the axles, and behind it is a pair of bars, J, arranged in the manner of toggle-jointed bars, to force the said friction-wheel against the axle; and above the joint K of these bars the end of the short arm of a lever, L, is arranged for being forced down on them to push up said drum. The long arm of this lever has an eye, N, through which a long cord, O, running the whole length

of the train, passes. It also passes through guides P on the under side of the platform, or in any position sufficiently above the lever and close together to raise it vertically when drawn up taut. This cord runs forward to the locomotive or tender, and winds on a drum, B', similar to the one, B, for operating the brake-chains, and turned in a similar manner by a friction-wheel, A', acted on by the axle D' of the locomotive; and said drum is put in gear by toggle-jointed bars J', lever L', and a cord, O'; but this cord O', instead of passing through an eye in the end of said lever, is attached to it, and extends up into the cabin Q, and is connected to a drum, R, which is to be turned by a hand-crank or wheel for putting drum A' in gear; and this drum puts on the brakes. The other end of the cord O, at the rear end of the train, will either be connected to the end of the last lever L in the series or it may pass through an eye and be connected to a spring beyond. Said cord will be made in sections, and jointed together in the manner of the bell-cord of a train, to facilitate the arranging of it in making up the trains.

It will be seen that the toggle-jointed bars afford a means of pressing the friction-wheels on the axles with great force without requiring very great strain on the cord O; yet this cord may have all the power required by the same means without a very great application of power on the drum K.

It will also be seen that, whether the cord O is slack by reason of the cars being close together or taut by their being extended as far as the coupling will allow, the action of the cord on the brakes will be uniform, the only difference being that they will be brought into action a little sooner or later.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with a car-brake and one of the axles, of the friction roller or wheel A, drum B, chain E H, toggle-jointed bars J, and a lever, L, all substantially as specified.

JAMES S. LAMAR.

Witnesses:

T. B. MOSHER,
ALEX. F. ROBERTS.