L. WATSON.

Car Brake.

No. 45,545. Patented Dec. 20, 1864.

Fig. 1.

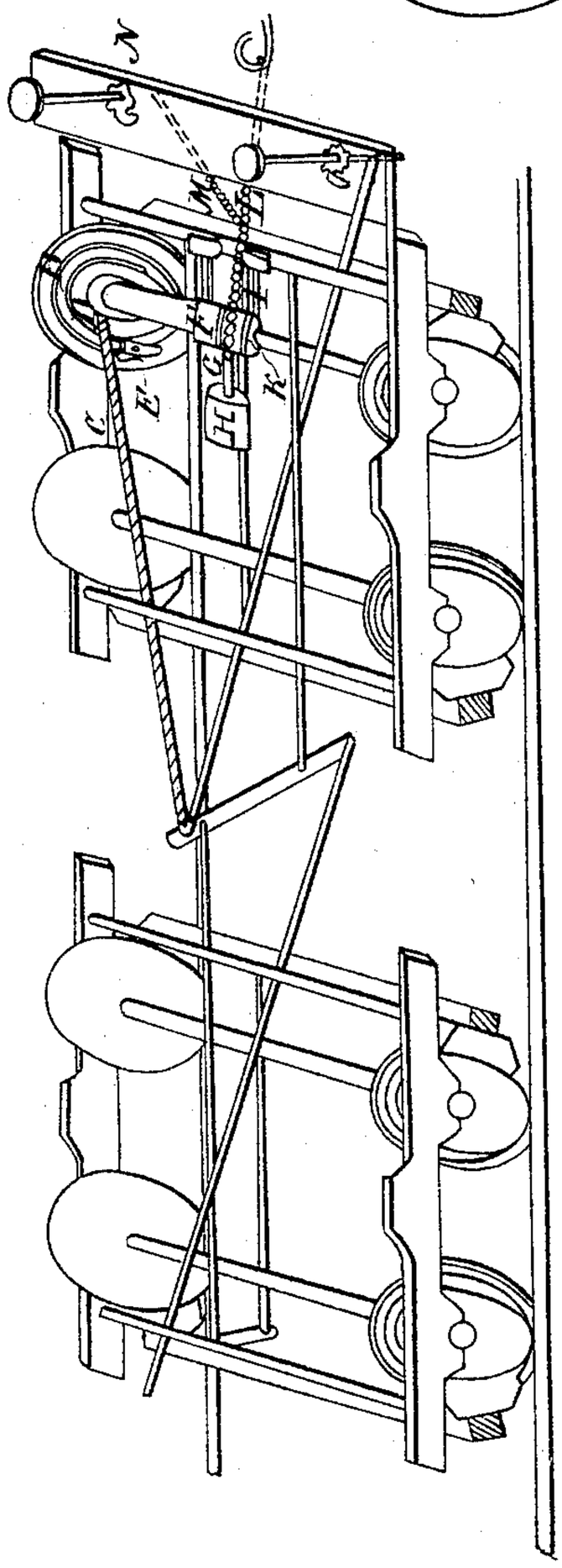


Fig. 2.

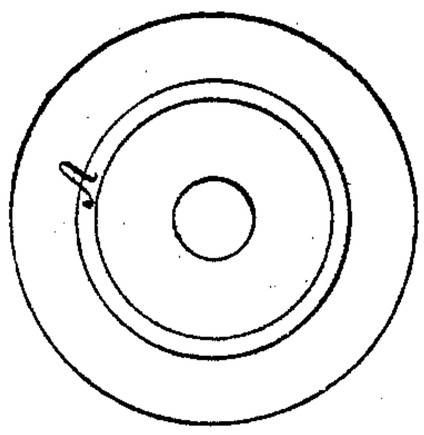


Fig. 3.

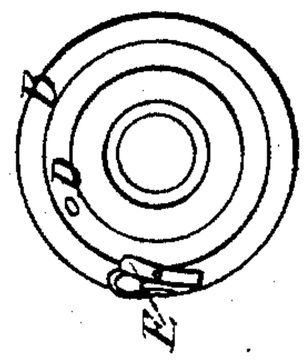


Fig. 4.

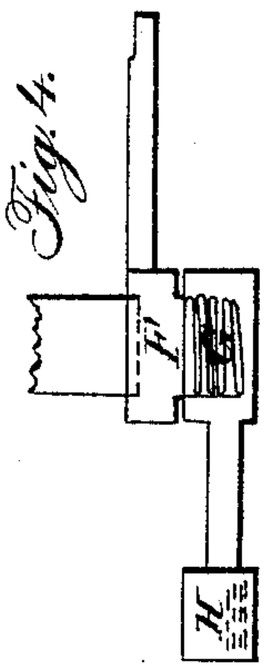
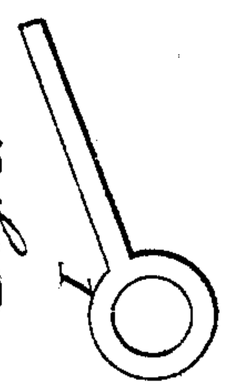


Fig. 5.



Witnesses:

Eugene Feitt

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UNITED STATES PATENT OFFICE.

LEWIS WATSON, OF SOUTH PLYMOUTH, MICHIGAN.

IMPROVEMENT IN BRAKES FOR RAILROAD-CARS.

Specification forming part of Letters Patent No. **45,545**, dated December 20, 1864.

To all whom it may concern:

Be it known that I, LEWIS WATSON, of South Plymouth, county of Wayne, and State of Michigan, have invented a new and Improved Self-Working Brake for Rail-Cars; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective view; Fig. 2, a car-wheel with friction-plate attached; Fig. 3, a friction-wheel with ring attached; Fig. 4, screw and burr, showing the position of the levers and weight; Fig. 5, a friction-collar.

The nature of my invention consists in providing rail-cars with an apparatus for working the brake, said apparatus being worked by the action of the locomotive.

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

I construct my rail-cars in any of the known forms and apply thereto brakes, levers, and chains and other apendages of such cars; but in order to obviate the dangers and inconveniences arising from the neglect or inability of the brakemen to apply the brake in season, I make an apparatus which will apply or release the brake without care or attention.

I attach to one wheel a friction-plate, said plate presenting a true, even surface, as shown at A. I also make a friction-wheel, B, presenting a true and even surface to the friction-plate A on one side. On the opposite side it has a small hub of sufficient length to hold the chain C. It has also a ring, D, attached, which is so constructed as to allow the friction-wheel B to revolve in one direction without moving the ring D, that direction being indicated by the pawl and spring E. The pawl and spring E must stand in such a position as to allow the friction-wheel B to revolve freely when the car is being backed, but will force the ring D to revolve with it when moving forward. One end of the chain C is attached to the ring D, the other end being attached to the lever of the brake at the same point where the hand-brake is usually attached.

I also construct a hollow screw, F, with a lever attached to the frame of the truck. I also construct a burr, G, to match the screw F, with a lever attached also, and upon the lever of the burr G, I place a weight, H, said weight being adjusted by means of a set-screw. I also construct a friction-collar, I, which is placed upon the axle against the collar K, collar K being fastened firmly to the axle. Thus it will be seen that the friction-wheel B is placed upon the axle of the car in such a position that the descent of the weight H, attached to the lever of the burr G, will force the true, even surface of the friction-wheel B against the friction-plate A, thus causing the friction-wheel B to revolve with the axle. Thus it will be seen that the chain C will be wound up around the hub of the friction-wheel B, until it has attained a certain strain, the amount of strain being varied by the weight H. When the friction-wheel B has attained the required strain it will stop, and the amount of strain thus attained will be held by the action of the friction plate A against the friction-wheel B. I also attach a chain, L, to the lever of the burr G in such a position that by drawing upon the chain L the weight H will be raised sufficient to loosen the friction-wheel B a sufficient amount to allow the friction-wheel B to revolve back freely, thus releasing the brake, the other end of the chain L being attached to the car preceding in such a manner that the chain L will be drawn a sufficient amount to raise the weight H before the strain will come upon the coupling. The chain L must be of sufficient length to allow the weight H to descend far enough to apply the brake when the locomotive ceases drawing. I also attach to the chain L a branch chain, M, which is fastened to a small shaft, N, at the end of the car, in such a manner that the shaft N can be turned and so raise the weight at any time when it may be desirable.

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

1. The construction and operation of the apparatus herein described, consisting of the combination of the friction-plate A and friction-wheel B with the car-wheel to which it is attached, the chain C, and ring D, pawl and spring E, screw F, and burr G.

2. The combination of the weight H, friction-collar I, and collar K, chain L, and chain M, and shaft N, when constructed and operating substantially as and for the purposes herein shown and described.

LEWIS WATSON.

Witnesses:

EUGENE FECHT,

TIMOTHY MAHONY.