

J. KIRBY.

DEVICE FOR OPERATING CAR-BRAKES.

No. 171,518.

Patented Dec. 28, 1875.

Fig. 3.

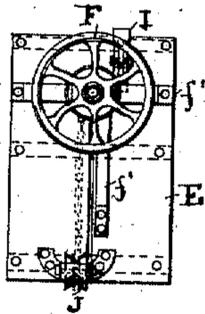


Fig. 4.

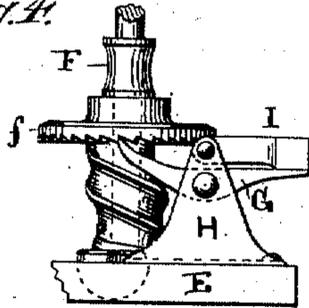


Fig. 1.

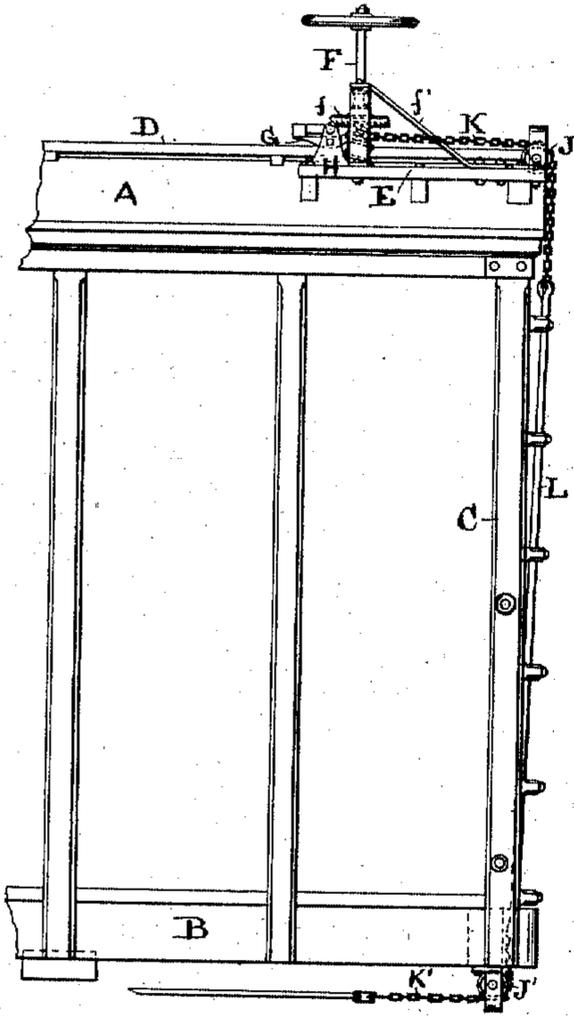
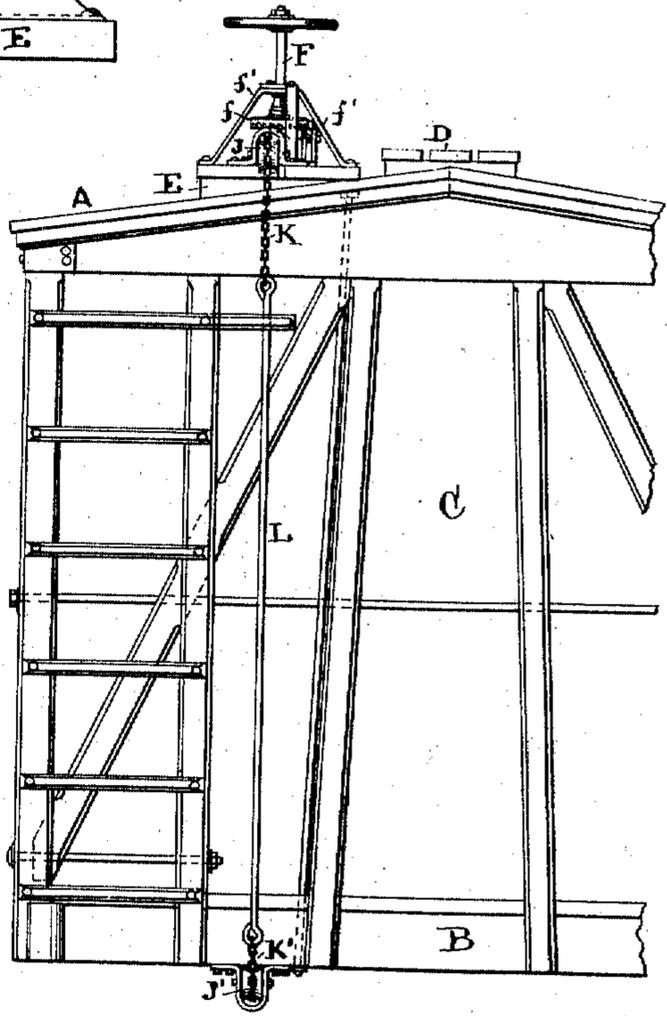


Fig. 2.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOHN KIRBY, OF CLEVELAND, OHIO.

## IMPROVEMENT IN DEVICES FOR OPERATING CAR-BRAKES.

Specification forming part of Letters Patent No. 171,518, dated December 28, 1875; application filed November 15, 1875.

*To all whom it may concern:*

Be it known that I, JOHN KIRBY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Devices for Operating Car-Brakes; and I 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.

My invention relates to the mechanism used for operating the brakes of railroad-cars; and the invention consists in certain new and improved combinations of devices, whereby the brake-windlass may be operated on the roof at a point some distance from the end of the car, said improvement being specially designed for use on box freight-cars.

Heretofore, the brake-windlasses of box freight-cars have been located at the ends of the car, either at the roof or at a point between the roof and the car-bed, and the operation of applying the brakes is accompanied by great danger to the brakeman, the starting of the train, and the coming together of the cars on the stoppage or backing of the engine, causing him to lose his foothold and fall down between the cars. Many lives have been lost from this cause, and the object of my invention is to prevent the possibility of such accidents and all danger in applying the brakes.

In the accompanying drawings, Figure 1 is a side elevation of the end of a box freight-car having my improvements. Fig. 2 is an end view of same. Fig. 3 is a plan view of the windlass and connections, and Fig. 4 is an enlarged view of a portion of the windlass with my improved pawl device.

Referring to the parts by letters, A represents the roof, C the end, and B the body, of a box freight-car. D is a platform extending the length of the roof of the car for the brakeman to walk on, and E is a small platform extending some distance from the end of the car. On this platform E the brake-windlass F is located. The windlass itself may be of the ordinary kind; but the ratchet-wheel *f* is

made with teeth on its under side instead of being on the face or periphery, the point of contact with the pawl being covered or protected by the web of the wheel. All the operating parts of the windlass are arranged above the platform E, the ratchet-wheel *f* being at such an elevation as to be above the feet of the brakeman, instead of being on a level with or immediately above the upper side of the platform. In this position the windlass is properly secured by braces *f'*, as shown in the drawings. The pawl G is pivoted between the standards of a bracket, H, the inner end of the pawl in position to engage with the ratchet-wheel. I is a weighted bar or arm, one end of which is pivoted to the top of the bracket H, and the other or weighted end rests upon the outer end of the pawl, said end being made lighter than the end which engages with the teeth of the ratchet-wheel. J is a pulley on the end of the roof of the car, and J' is a similar pulley on the under side of the body B, near the end of the car. K is a chain, one end of which is secured to the windlass, and the other, after passing over the pulley J, is secured to a rod, L, which extends vertically down the end of the car, and is connected at its lower end to a chain, K', which passes around the pulley J, and connects with the brake lever or rod which operates the brake-levers. The weighted bar I, bearing on the outer end of the car, keeps the pawl in contact with the teeth of the ratchet-wheel, so that in applying the brakes it is unnecessary to move or adjust the pawl, and as the teeth of the ratchet and their point of contact with the pawl is raised above the platform, and protected or covered by the web of the ratchet-wheel, the windlass is not liable to get out of working order through dirt or freezing water, as is frequently the case with the devices heretofore in use.

To release the brake, all that is necessary is to raise the weighted bar I and the outer end of the pawl, either by the hand or foot, so as to disengage the pawl from the ratchet-wheel.

By having the windlass located in the position described, the operations of applying and releasing the brakes can be performed by the brakeman without leaving the level platform

E on the top of the car, and without having to go to the end of the car and be subject to accident, as heretofore.

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

1. The platform E, in combination with a brake-windlass, F, secured thereto in position on the roof of the car some distance from the end, substantially as and for the purpose specified.

2. The combination of platform E, brake-windlass F, chains K K', pulleys J J', and

rod L, substantially as and for the purpose specified.

3. The platform D, in combination with the brake-windlass F, located on the roof of the car some distance from the end, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN KIRBY.

Witnesses:

J. C. ORDWAY,  
F. W. DAVIS.