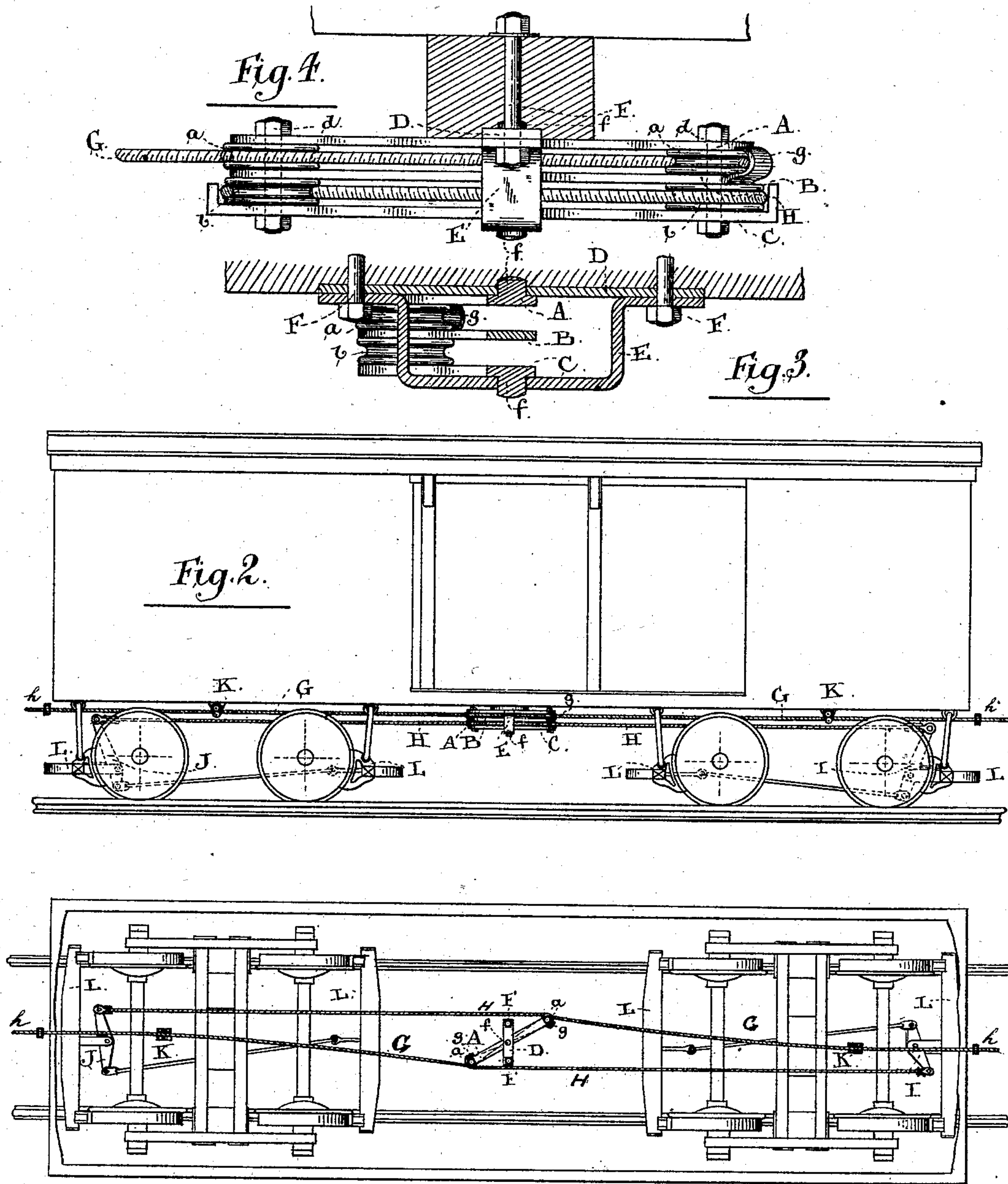


(Model.)

G. SMITH.  
Car Brake.

No. 235,912.

Patented Dec. 28, 1880.



Witnesses

Louis H. Whitehead  
John H. Elliot

Fig. 1.

Inventor:-

Geo. Smith  
by Bidout Aird & Co.  
Attys



# UNITED STATES PATENT OFFICE.

GEORGE SMITH, OF STRATFORD, ONTARIO, CANADA.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 235,912, dated December 28, 1880.

Application filed March 6, 1880. (Model.) Patented in Canada June 2, 1880.

*To all whom it may concern:*

Be it known that I, GEORGE SMITH, of the town of Stratford, in the county of Perth and Province of Ontario, Dominion of Canada, physician, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

The invention relates to a peculiarly-constructed lever pivoted to the bottom of each car and operated by a continuous rope, the said lever being connected to the brakes by a rope passing over pulleys in the lever and fastened at either end to the brake-rods, as hereinafter explained.

Figure 1 is a plan of the trucks, wheels, &c., of a car with my lever-brake attached. Fig. 2 is an elevation of a car with my lever-brake attached. Figs. 3 and 4 are details.

On reference to Figs. 3 and 4 it will be noticed that this lever is composed of three iron plates, A, B, and C, between which are placed, at each end, the pulleys *a* and *b*, pivoted on the bolts *d*, which also clamp the plates together, as shown. On the center of the plates A and C will be noticed the pivot-pins *f*, which fit respectively into holes made in the plate D and suspension-bracket E. The bolts *f* clamp these two together, and also bolt the lever as a whole to the bottom of the car. The rope G, employed for operating the lever, passes over the pulleys *a*, and is prevented from falling out of place by the clips *g* formed on the plate B. The rope H passes over the pulleys *b* and connects the brake-levers I and J, as represented. In order to form a clip for holding the rope H in position, I extend the plates B and C beyond the pulleys and set up the end of either of them, as shown.

Having now described the construction of the lever, I may explain that I attach it to the bottom of the car, as represented in Fig. 1. The rope H is passed through it, as shown, and is connected at each end to the brake-levers I and J, respectively. By this connection equal pressure on each brake is assured, any inequality being adjusted by the rope H sliding over the pulleys when the lever is turned on its pivot. The rope G is also passed through the lever, as before described, and is suitably supported along the bottom of the car, con-

necting with a similar rope under the next car, thus forming a continuous rope from one end of the train to the other.

In connecting the brake-levers I and J to the lever by the rope H, as described, care should be taken to see that the lever is set at such an angle that when straight longitudinally with the car the full power required on the brakes is applied, but without giving a greater strain than is necessary.

It will be understood, on reference to the drawings, that in order to apply the brake it is merely necessary to draw upon either end of the rope G, which action will turn the lever on its pivot, and thus exert a tension strain on the rope H, which conveys the desired pressure to the brakes L through the levers I and J, the rope H equalizing the pressure on the two brakes, as before explained.

It will be noticed that the rope-supports K, as shown in the drawings, each consist of two rollers held within a bracket attached to the bottom of the car, the rope passing between the two rollers; but it will, of course, be understood that this exact construction need not be observed, as any kind of support which will carry the rope would answer the purpose.

The stop *h* may be a simple knot in the rope, or anything attached to it which will prevent the rope slipping past the support K. This stop *h* is important, as without it the continuous rope would, in the event of its breaking, fall down and probably get entangled in the running-gear of the truck, causing considerable damage.

What I claim as my invention is—

1. The rope H, connecting the levers I J and passing over the pulleys *b*, held within a lever pivoted to the bottom of a car, as described, in combination with the rope G, passing over the pulleys *a*, held within the same lever, substantially as and for the purpose specified.

2. The plates A, B, and C, pulleys *a* and *b*, and bolts *d*, forming a lever, as described, and pivoted on the pins *f* to the plate D and bracket E, as described, in combination with the continuous rope H, substantially as and for the purpose specified.

3. The rope G, passing over the pulleys *a*, contained within a lever pivoted to the bottom

of a car, as described, in combination with the clips *g*, substantially as and for the purpose specified.

4. The rope *H*, passing over the pulleys *b*,  
5 contained within a lever pivoted to the bottom of a car, in combination with the ends of the plates *B*, bent to form a clip to hold the said rope in place.

5. The continuous rope *G*, passing over the

pulleys *a* and supported by the rope-support *io* *K*, in combination with a stop, *h*, placed on the said rope, substantially as and for the purpose specified.

Dated 18th day of December, A. D. 1879.

GEO. SMITH.

Witnesses:

W. WATTERSON,

O. F. DALY.