2 Sheets—Sheet 1.

E. MORRIS.

Car Brake.

No. 928. Patented Sept. 19, 1838.

Fig. 1.

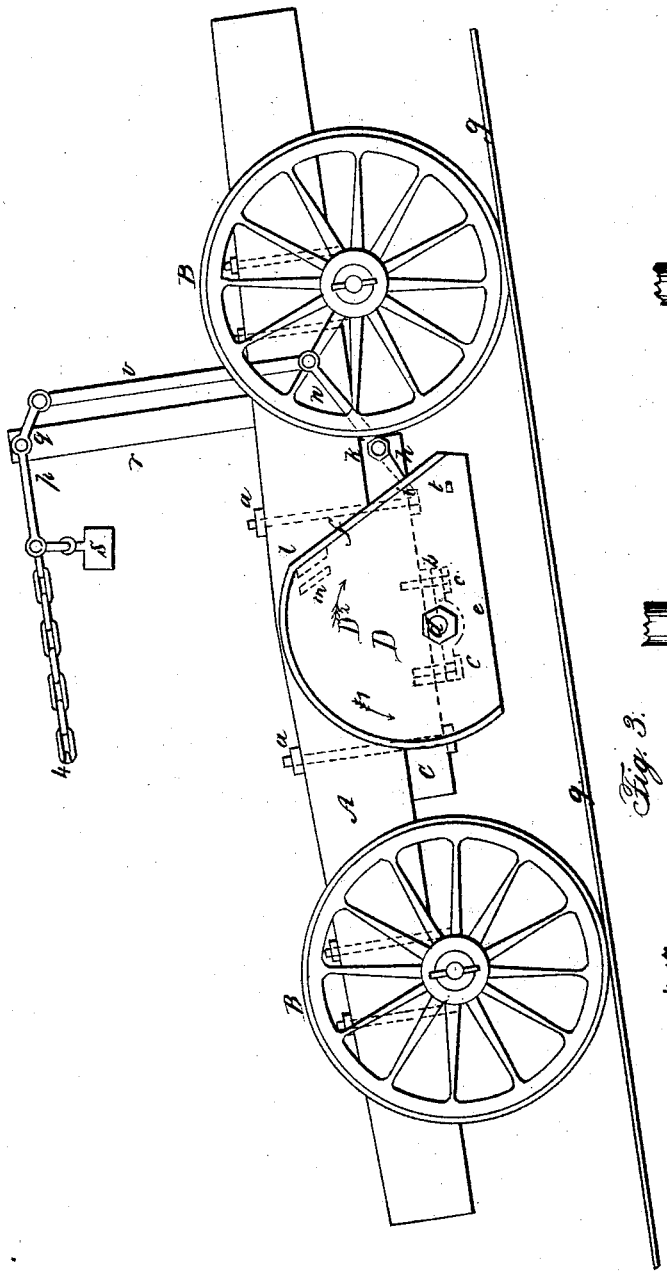
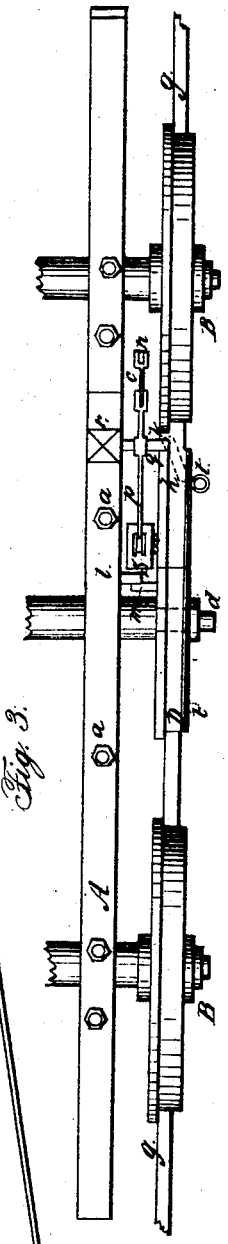


Fig. 3.



Witnesses:

A Wakeman

W Gerrelle

Inventor:

John Morris

2 Sheets—Sheet 2.

E. MORRIS.

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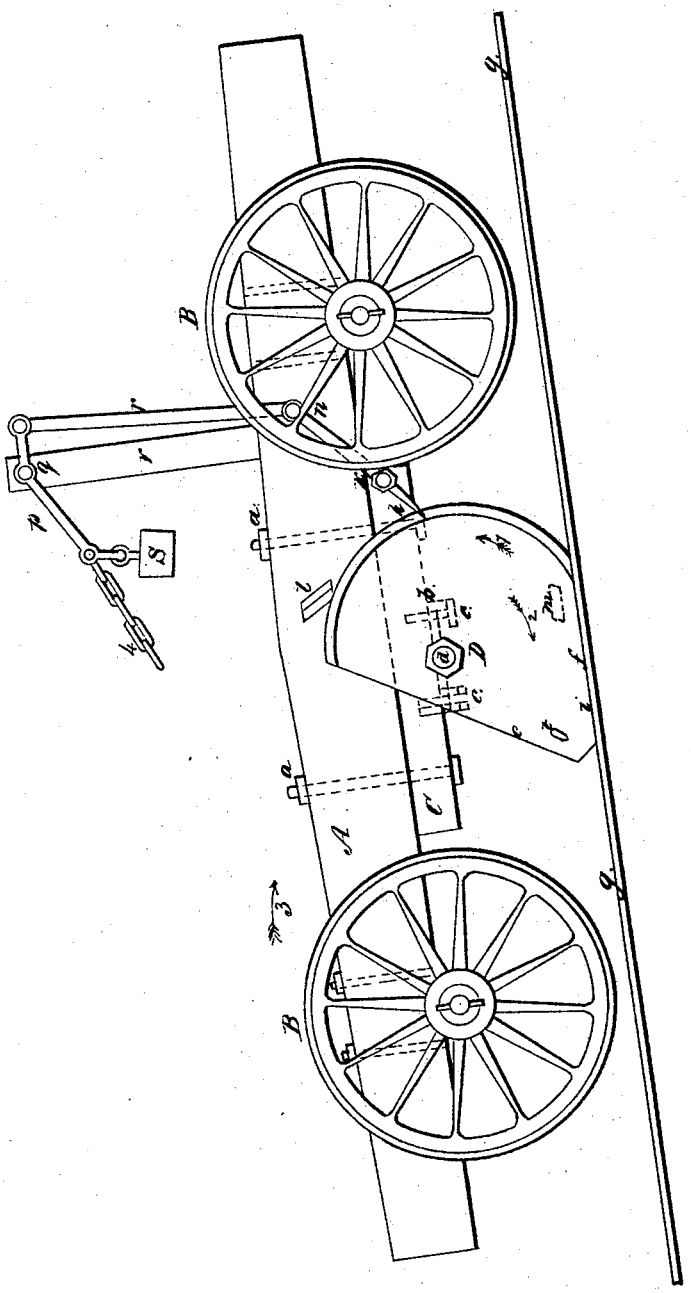

Fig. 2.

Witnesses:

W Gerrell
A Wakeman

Inventor:

Ephm Morris

UNITED STATES PATENT OFFICE.

EPHRAIM MORRIS, OF BLOOMFIELD, NEW JERSEY.

ECCENTRIC BRAKE FOR ARRESTING THE MOTION OF RAILROAD-CARS, &c.

Specification of Letters Patent No. 928, dated September 19, 1838.

To all whom it may concern:

Be it known that I, EPHRAIM MORRIS, of Bloomfield, in the county of Essex, and State of New Jersey, machinist, have invented and made and applied to use certain new and useful improvements in the arrangement of mechanical means for regulating or stopping the motion of cars on railroads, such roads being either level or inclined planes, which improvements I designate collectively as an "Eccentric Brake," and that the methods of constructing and using the said improvements are fully and substantially shown in the following description and in the drawings annexed to and making a part of this specification, wherein—

Figure 1 is a side sectional elevation of a car frame with the brake attached and ready for use. Fig. 2 is a similar sectional elevation of the same with the brake in use and Fig. 3 is a horizontal plan of the same applicable to both the preceding figures as having the position of the brake when in operation shown by red lines, and the same letters and numbers as marks of reference apply to the same parts in all the three figures.

A is the side frame. B B the wheels of the cars made and fitted on in the usual way.

C is a strong block of wood or metal screwed to the underside of the frame A on each side of the car by the bolts and nuts *a a* and fitted with a strong bearing having a cap and screws *c*, *c* shown by dotted lines to receive a strong metal shaft or axis *d*, on each end of which is mounted an eccentric cam D, formed of metal or wood bound with metal having one straight face *e*, which is downward when out of use and runs always at a clear distance from the road rail *g*, and a second straight face *f*, which is to come down to and bite on the road rail when in use and having a flanch on each edge to prevent lateral sliding. The weights in the parts of this cam are to be so proportioned in making it that the cam itself has a small but constant tendency to go over in the direction of the arrow 1, and it is retained in the position shown in Fig. 1, by the latch *h*, whose point catches against the part *i*, in the cam and the line from the point of the latch *h*, to the center of the swivel bolt K, being a tangent to the circumference of the cam at the radius operates to prevent the counterweight of the cam on the opposite side of the center *d*, from swinging the cam over, and a bracketed flanch *l* on the side frame A is to catch on the inside of the cam D, near the point *m*, to prevent it from rolling beyond the latch *h*, in the direction of the arrow 2.

The latch *h* has an arm *n*, connected by the rod *o*, to the shorter arm of the obtuse angled crank *p*, which is centered at *q*, on the standard *r*, and the counterweight S, operates by the crank *p* and rod *o*, to throw the latch *h*, *n* out of place when the brake is to be put in use as described hereafter and the eye bolt *t*, will receive a rope or any other convenient mechanical means by which the cam may be swung either way as wanted.

When this apparatus is to be used on an inclined plane of a canal or rail road a chain 4 from the crank *p* is to run as a back chain from the descending to the ascending car then on the planes and working with the motion keeps the cam D up. But if the plane chain breaks the slacking of the back chain 4 lets the weight S drop which immediately trips the crank *p* and thus throwing the latch *h*, downward the cam D instantly rolls over in the direction of the arrow 1, and biting on the road rail stops the carriage. And if used on a common or level rail road a pointed lever may form the latch and being moved by hand will put the cam brake in work to stop the car with the same effect as on an inclined plane.

When the brake thus made is fitted and ready for use the operation will be as above described as on going over the face *f*, will immediately bite on a considerable length of the road rail at the same time lifting one or both the wheels as shown in Fig. 2, and almost instantly stop the car without in any possible way distressing the wheels or wheel axles as is now the effect when a brake is applied to a wheel. When it is required to start again the steam engine or other power is to be started slowly and made to drive the car the reverse way as shown by the arrow 3, which will cause the brake to roll in the direction of the arrow 2 and disengage the face *f* from the road rail when the brake may be replaced as in Fig. 1, and the car proceed in either direction.

I do not intend to confine myself to the mechanical arrangement above described

but to vary it according to circumstances in any way substantially the same in the details of the parts and the result obtained.

I do not claim to have invented any one part of the above described apparatus, each taken separately being well known—but

I claim as my invention for which I seek Letters Patent,

The application of a cam as a brake in manner and form above substantially described and set forth in combination with any arrangement of mechanical means for using such cam as a brake which will produce the same effect by being substantially the same in detail as above described.

EPHM. MORRIS. [L. S.]

Witnesses.
A. WAKEMAN,
W. SERRELL.