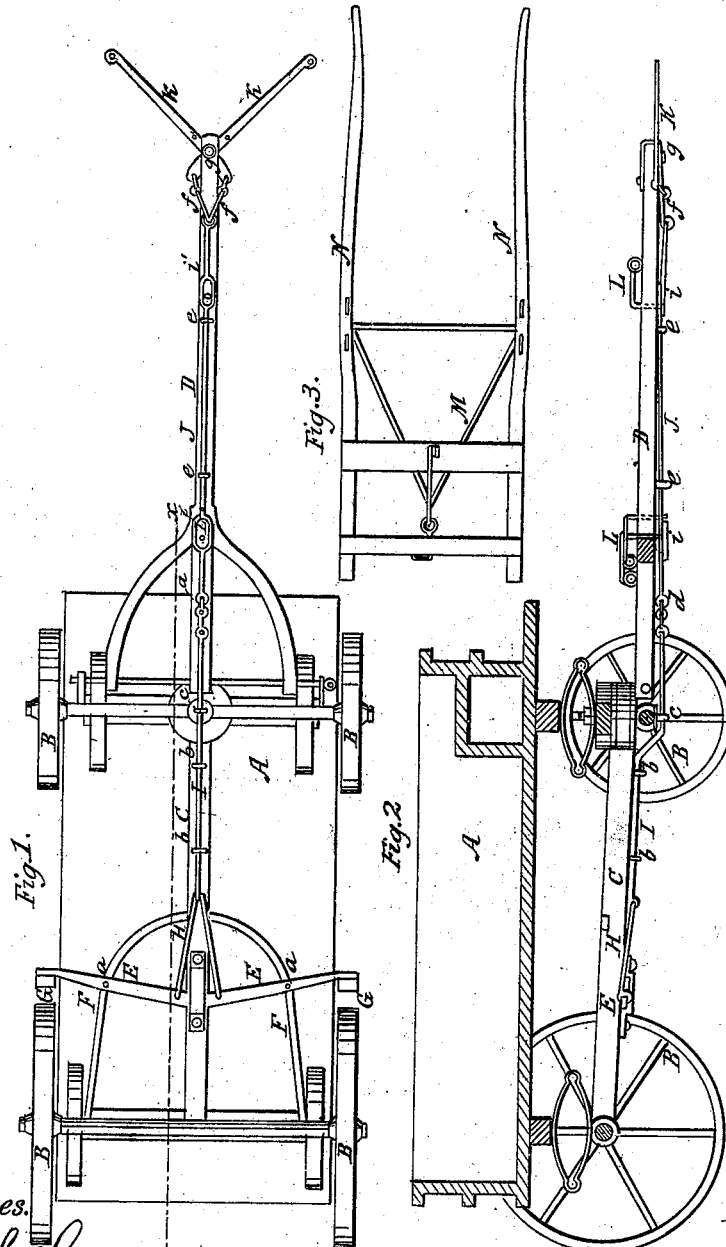


L. C. PERCIVAL.

Wagon-Brake.

No. 52,595.

Patented Feb 13, 1866.



Witnesses.

*Jas. E. Linn*  
*Wm. Frewin*

Inventor.

*L. C. Percival.*  
*per Munroe & Co*  
*Attys.*

# UNITED STATES PATENT OFFICE.

L. C. PERCIVAL, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN WAGON-BRAKES.

Specification forming part of Letters Patent No. 52,595, dated February 13, 1866.

*To all whom it may concern:*

Be it known that I, L. C. PERCIVAL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Wagon-Brake; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an inverted plan or a bottom view of a wagon with my invention applied to it; Fig. 2, a side sectional view of the same, taken in the line *xx*, Fig. 1; Fig. 3, a detached view of thills, showing the manner in which my improvement is used with them.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved self-acting brake for wagons and other wheel-vehicles which are drawn by horses; and it consists in a novel arrangement of a rod, brake-levers, and levers to which the breast-straps of the team are attached, all being arranged in such a manner as to operate automatically when the vehicle is descending an eminence.

A represents the body of a wagon; B, the wheels; C, the reach or perch; and D, the draft-pole. These parts may be constructed in the usual manner, and therefore do not require a minute description.

E E represent two levers, the fulcrum-pins *a* of which pass through the braces F F attached to the reach and the back axle of the vehicle, as shown clearly in Fig. 1. The outer ends of these levers E E have shoes G attached to them, which are in line with the front edges of the rear wheels of the vehicle, and said levers, near their inner ends, are connected by a link, H, with the rear end of a rod, I, which is fitted in guides *b* at the under side of the reach C, and extends through an eye in the lower end of the king-bolt *c*, and is connected, by a chain, *d*, with a rod, J, which is fitted in guides *e* underneath the draft-pole D.

The front end of the rod J is connected by rods *ff* with levers K K, which cross each other, and have their fulcrum-pin *g* in the front

end of the draft-pole D. The breast-straps of the team are connected to these levers, and it will be seen that when the wagon is descending an eminence the pressure on the ends of the levers K K will draw the rods I J outward and cause the shoes G to press against the rear wheels of the wagon; hence a self-acting brake is obtained, and one which will operate with certainty and in the most efficient manner.

L represents spring-pins, which are attached to the upper surface of the draft-pole D and pass through it. These pins, in connection with loops *i* in rod J, are for the purpose of keeping the shoes G on the rear wheels when the wagon is at rest, and also for preventing the shoes from acting against the wheels when not required—as, for instance, in backing the wagon.

In order to apply the invention to a one-horse vehicle, I attach a strap, M, to the thills N, (see Fig. 3,) said strap passing through guides or loops at the under sides of the thills and having its ends attached to rod I. The rear of the horse acts or bears upon the strap M when the vehicle is descending an eminence, and the same result attained as with the previous-described arrangement.

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

1. The levers E E, pivoted to the braces F F at the rear part of the reach or perch C, and provided with shoes G at their outer ends in line with the rear wheels B, in combination with the rods I J and the levers K K, to which the breast-straps of the team are attached, all arranged and applied substantially as and for the purpose set forth.

2. The spring-pins L, attached to the draft-pole D, in combination with the lips *i* in the rod J, substantially as and for the purpose specified.

3. The strap M, applied to the thills N and connected with the rod I, substantially as and for the purpose set forth.

LEVEN C. PERCIVAL.

Witnesses:

GEO. BROWN,  
JAS. M. SUMERS.