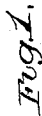
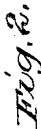


Wagon-Brake.

Patented Nov 28, 1865



Witnesses:  
Wm. J. J. J. J.  
Geo. Lusk



Inventor:  
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attys

# UNITED STATES PATENT OFFICE.

C. A. SMYTH, OF CHARLESTON, ILLINOIS.

## IMPROVED SELF-ACTING BRAKE.

Specification forming part of Letters Patent No. 51,232, dated November 28, 1865.

### *To all whom it may concern:*

Be it known that I, C. A. SMYTH, of Charleston, in the county of Coles and State of Illinois, have invented a new and Improved Self-Acting 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 a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved self-acting wagon-brake; and it consists in having the brake-shaft connected in a novel way with the front bolster of the vehicle, the bolster applied to the vehicle, the front end of the perch or reach slotted, and all arranged in such a manner that the front bolster will, under the gravity of the load in descending an eminence, be made to serve as a lever to actuate the brake-shaft and apply the shoes to the wheels.

The invention further consists in applying and arranging the shoes in such a manner that they will not interfere with the backing of the vehicle.

A represents the back bolster of a wagon; B, the back axle; C C, the back wheels; and D the reach which connects the rear axle with the front axle, E, the front end of the reach having an oblong slot, *a*, made in it to allow the king-bolt G to pass through into the front bolster, H, the former serving as a fulcrum for the latter.

The wagon body or bed is secured to the back bolster, A, in the usual way, and it is secured to the front bolster, H, near one end of the same, by a pivot-bolt, *a*<sup>x</sup>. The front bolster, near the opposite end, has a friction-roller, *b*, fitted in it.

I represents hounds, which are attached to the front axle, E, and have the rear end of the shaft pole secured between their front ends by a bolt, *c*, in the usual way.

J is a bar, which is permanently secured to the reach D, at right angles therewith, and has a shaft, K, fitted upon it in bearings *d*, so as

to turn freely therein. This shaft K is provided with a crank, *e*, at its center, and also with a crank, *f*, at each end, the latter being in a reverse position to the former, and the crank *e* is connected to the front bolster, H, by a rod, *g*.

L L represent shoes, which are provided with oblong slots *h* for the cranks *f* to pass through. (See Fig. 1.) These shoes are of taper or wedge form.

When the vehicle is being drawn on a level or horizontal road, or is being drawn up-hill, the king-bolt G will be at the front end of the slot *a* in the reach D, and the shoes L will be free from the back wheels, C C. This is owing to the pull of the team on the front axle. When, however, the vehicle is descending an eminence, the gravity of the load will act upon the front bolster, H, which then operates as a lever, the king-bolt G being its fulcrum, the pivot-bolt *a*<sup>x</sup> where the power is applied, and the point where rod *g* is connected the weight or obstacle to be moved. The front bolster is moved in the direction indicated by the arrow 1, the roller *b* facilitating its movement under the wagon-bed, and the rod *g* turns the shaft K, so as to throw the shoes L L over between the back wheels, C C, and the bar J, which bind between said wheels and bar J, and serve as an efficient brake. When the vehicle reaches the level road the front axle, under the pull of the team, is drawn forward so that the king-bolt will bear against the front end of the slot *a*, and the front bolster will be moved back to its original position, and the shoes L thrown forward free from the back wheels over the bar J.

In backing the vehicle at any time the oblong slots admit of the back wheels, in their reverse motion, throwing the shoes upward, so that they cannot bind between said wheels and the bar J.

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

1. The shaft K, provided with the cranks *e f f*, and shoes L L, placed on the bar J, in relation with the wheels C, as shown, in connection with the slotted reach D, and the front bolster, H, connected, by a pivot-bolt, *a*<sup>x</sup>, to the wagon bed or body near one end, fitted on the

king-bolt G as a fulcrum, and connected to the shaft K, by the rod g, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The slotted shoes L L, placed on the cranks *ff* of the shaft K, for the purpose of admitting the shoes to rise under the reverse

motion of the wheels C in backing, substantially as set forth.

C. A. SMYTH.

Witnesses:

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