

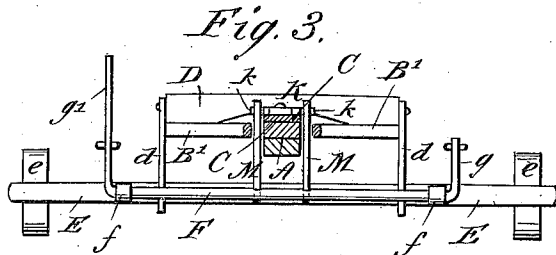
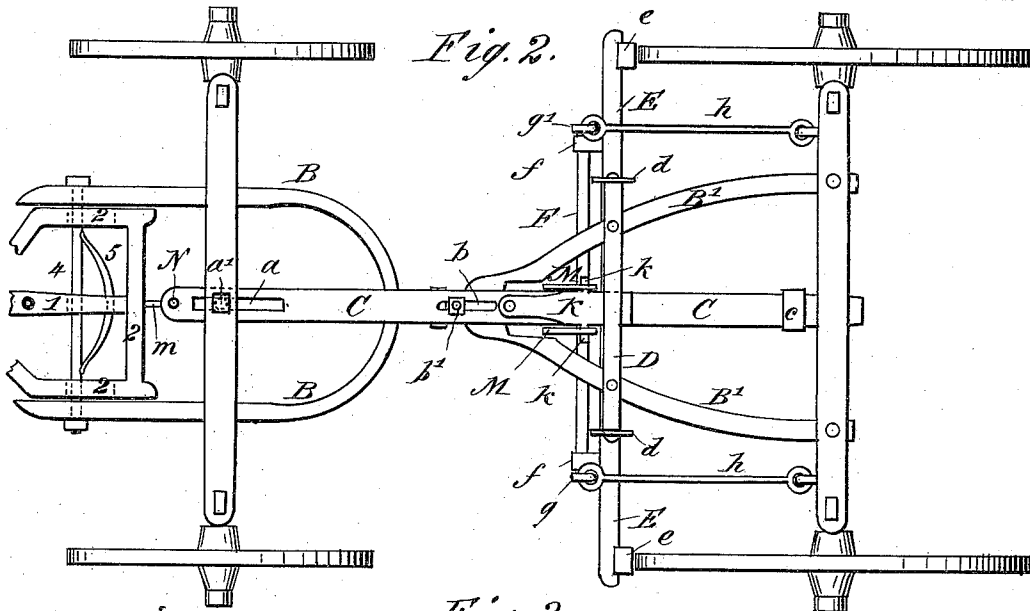
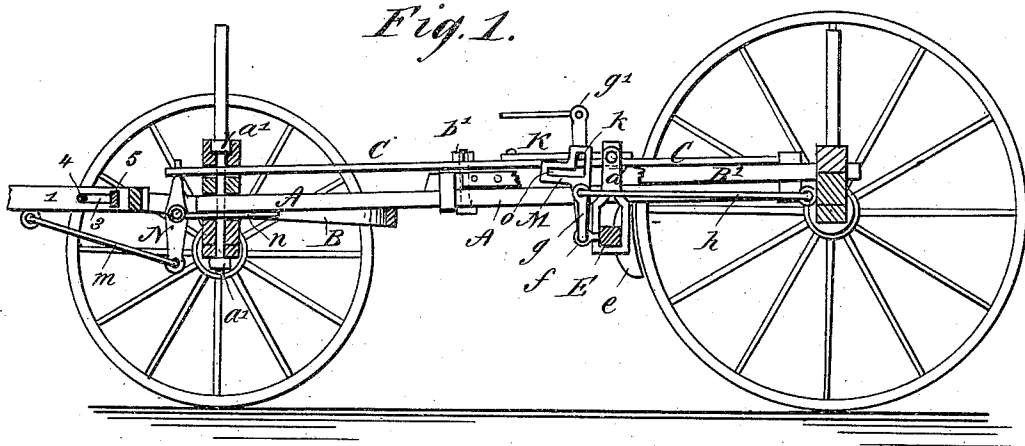
(No Model.)

N. E. THOMPSON, Jr.

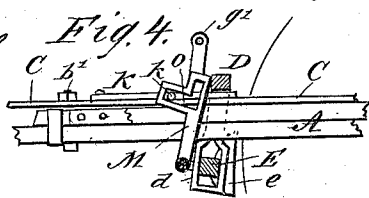
WAGON BRAKE.

No. 358,633.

Patented Mar. 1, 1887.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

NOBLE E. THOMPSON, JR., OF CLARK'S MILLS, PENNSYLVANIA.

## WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 358,633, dated March 1, 1887.

Application filed August 10, 1886. Serial No. 210,516. (No model.)

*To all whom it may concern:*

Be it known that I, NOBLE E. THOMPSON, Jr., of Clark's Mills, in the county of Mercer and State of Pennsylvania, have invented a new and Improved Wagon-Brake, of which the following is a full, clear, and exact description.

My invention relates to wagon-brakes, and has for its object to produce a brake that will automatically lock the wagon when stationary, and wherein the applied draft will automatically remove the brake as the wagon is drawn forward, and further, wherein, when descending an inclined surface, the action of the horses in holding back will tend to apply the brake with increased force, and, finally, wherein, when the wagon is backed, the reverse movement of the wheels will throw the brake-shoes out of contact therewith.

It consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal vertical section of my applied brake, and Fig. 2 a plan view of the same. Fig. 3 is a transverse vertical section through the frame, and Fig. 4 is a detail view of the locking device.

A represents the reach of an ordinary four-wheeled wagon, and B B' the front and rear hounds thereof.

From a point upon the reach A, near its juncture with the rear axle-bar and bolster, a flat iron bar, C, about one and one-half inch in width and bearing on said reach, is extended to a central point, and from thence, extending parallel with the reach, the said bar is passed between the front bolster and bolster-support of the wagon to project slightly beyond the same.

The reach-bar C is adapted to slide backward and forward upon the bearings, as above described, and to that end is provided with an elongated slot, *a*, near its front end to receive the king-bolt *a'* of the wagon, and with a central elongated slot, *b*, purposed to receive a bolt and nut, *b'*, which acts as a central guide thereto, its rear end being held in position by

an inclosing-band, *c*, which also serves the purpose of a rear guide.

The short transverse bar D, secured to the rear hounds, B', near the contracted portions thereof, the ends of which extend beyond the said hounds, is recessed centrally to permit the passage of the sliding reach-bar C, and to the said extended ends are secured vertical slotted pendants *d d*, adapted to support an ordinary transverse brake-bar, E, having attached thereto the usual brake-shoes, *e e*, in the customary manner.

The brake-bar E is suspended such a distance below the reach and to the rear as that the brake-shoes thereon will constantly be in contact with the hind wheels below the plane of the axle when the wagon is not in motion.

A brake-rod, F, provided with crank-arms *g g'*, is held to turn in eyebolts *f f*, which pass through the brake-bar E and hold the brake-rod parallel thereto. The motion of the brake-rod F is controlled by means of the rods *h h*, which are fastened at one end to the rear axle-bar, near the ends thereof, and at the other to the crank-arms *g g'*. The right-hand crank-arm, *g'*, extends upward even with the wagon-frame, and is connected by means of a pitman with a suitable hand-lever at the front thereof.

Fastened to the upper face of the reach-plate C, at a point over the intersection of the rear hounds, B', with the reach A, and extending back a short distance beyond the short transverse bar, D, is a metal strip, K, having projections *k k* thereon integral therewith, said projections being adapted to engage L-shaped slots *o* cut in the vertical short rods M, which are secured to the brake-rod F and extend upward therefrom, one on each side of the reach A, between the short transverse bar D and the intersecting rear hounds, B'.

As a purchase for my brake, I pivot a lever, N, centrally to a flat slotted fulcrum-bar, *n*, which is held between the reach A and the front bolster-bar by the engagement of the king-bolt *a'* with the slot cut therein. The upper end of the lever N is adapted to enter a hole cut in the extended end of the sliding reach-bar C to operate the same, and an attachment is formed at the lower end of the said lever with a purchase-rod, *m*, whose other

extremity is attached to an eyebolt in the under side of the wagon-pole 1.

The wagon-pole is provided with two hounds, 2, situated one on each side, which slide with the pole backward and forward between the extended ends of the front hounds, B, secured to the axle-tree of the wagon. The sliding hounds 2 and pole 1 are provided with an elongated slot, 3, in each, upon a right line, through which passes a bolt, 4, firmly secured to the outer ends of the fixed front hounds, B. A spring, 5, is entered in the slots 3 of the pole, between the sliding hounds, to bear at its ends against the bolt 4 and centrally upon the end of the slot cut in the pole. This spring 5 relieves the horses from sudden jars, and has a tendency to keep the brake on the wheels unless the wagon is in motion.

In the use of my brake the wagon can be turned with perfect ease, and as it is attached to the running-gear simply it does not interfere with the removal of the wagon-bed. As the draft is applied to move the wagon, it removes the brake from the wheels thereof, and as the wagon stops the brake is automatically applied. In going downhill, as the horses hold back, they assist in applying the brake; but when the team is backed, as the wheels reverse, they lift the brake-bar upward and forward out of the way, the projections *k* passing out of the short arms of slots *o* into the long arms, so that the brake-bar can swing forward, leaving the wheels free to turn in the reverse direction; and as the team advances again the brake is returned to the position to act when the team is stopped.

The operation of my brake is as follows: When the wagon is stationary, by means of the construction and application of the parts as above described, the brake-shoes retain the same in that position, as shown in Fig. 1, by their engagement with the hind wheels below the line of the axle. As the team is started, the spring 5, passing through the sliding hounds 2 and pole 1, tends to relieve the strain, while the purchase-bar *m*, fastened to the under side of the pole 1, is drawn forward thereby, carrying with it the lower end of the centrally-pivoted lever N, causing its opposite upper end, in engagement with the reach-bar C, to slide the same rearward. As the reach-bar C is thus slid back, the projections *k* of the metal strip K, attached to said reach-bar, engage the sides of the vertical arm of the slotted vertical bars M, secured to the brake-bar F, which in turn is attached to the brake-rod E, carrying the said brake bar and rod forward, thereby removing the brake-shoes from contact with the wheels, the forward inclination being regulated by the stay-rods *h*, attached to the hind axle-bar and the crank-arms *g g'* of the brake-rod F. While the wagon is drawn forward, the brake will remain off; but as soon as the team is stopped, the lever N returns to its normal position and the brake is again applied. In going down grade the horses,

holding back, assist the mechanism in applying the brake more firmly than when the wagon is stationary. In backing the team, as the wheels reverse the brake-shoes, clamping the wheels below the level of the axle, are, by the action of said wheels, thrown with the brake rod and bar upward and forward. By this movement the vertical slotted bars M are caused to assume an inclined position, as shown in Fig. 4, bringing the horizontal slotted arm thereof in engagement with the projections *k k* of the attached metal plate K. Thus the brake is held removed from the wheels, permitting free action thereof in this direction. As soon, however, as the draft is applied forward, the first position of the brake is again assumed.

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

1. The combination, with a wagon-frame having hounds B B' and reach A, of the sliding reach-bar C, extending from the rear to project beyond the front axle-bar over the reach, provided with the slot *a*, adapted to engage the king-bolt and the central slot, *b*, the guide-bolt *b'*, the attached plate K, having projections *k k*, and the rear guide, *c*, the said reach-bar C, adapted to operate a brake, substantially as shown and described.

2. In a wagon having the front and rear hounds, B B', and reach A, the combination, with the sliding reach-bar C, provided with the attached plate K, having projections *k k*, of the brake-rod F, provided with crank-arms *g g'*, having attached thereto vertical L-slotted rods M, and brake-bar E, carrying shoes *e*, substantially as shown and described, and for the purpose herein set forth.

3. In a wagon provided with the front and rear hounds, B B', and reach A, the combination, with the short transverse bar D, provided with slotted pendants *d d*, of the brake-bar E, carrying shoes *e*, and the attached brake-rod F, provided with the crank-arms *g g'* and central vertical L-slotted rods, M, said crank-arms being connected with the rear axle-bar by stay-rods *h h*, substantially as shown and described, and for the purpose herein set forth.

4. The combination, with the sliding reach-bar C, provided with an attached plate, K, having side projections, *k k*, the vertical slotted rods M, attached to the brake-rod F, and the horizontal brake-bar E, carrying-shoes *e*, of the lever N, centrally pivoted to the slotted fulcrum-bar *n* and connected to the under side of a slotted pole, 1, by a purchase-rod, *m*, together with the slotted hounds 2, transverse bolt 4, and curved spring 5, arranged to operate substantially as shown and described, and for the purpose herein set forth.

NOBLE E. THOMPSON, JR.

Witnesses:

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