

(No Model.)

2 Sheets—Sheet 1.

J. M. HARDIN.
VEHICLE BRAKE.

No. 464,966.

Patented Dec. 15, 1891.

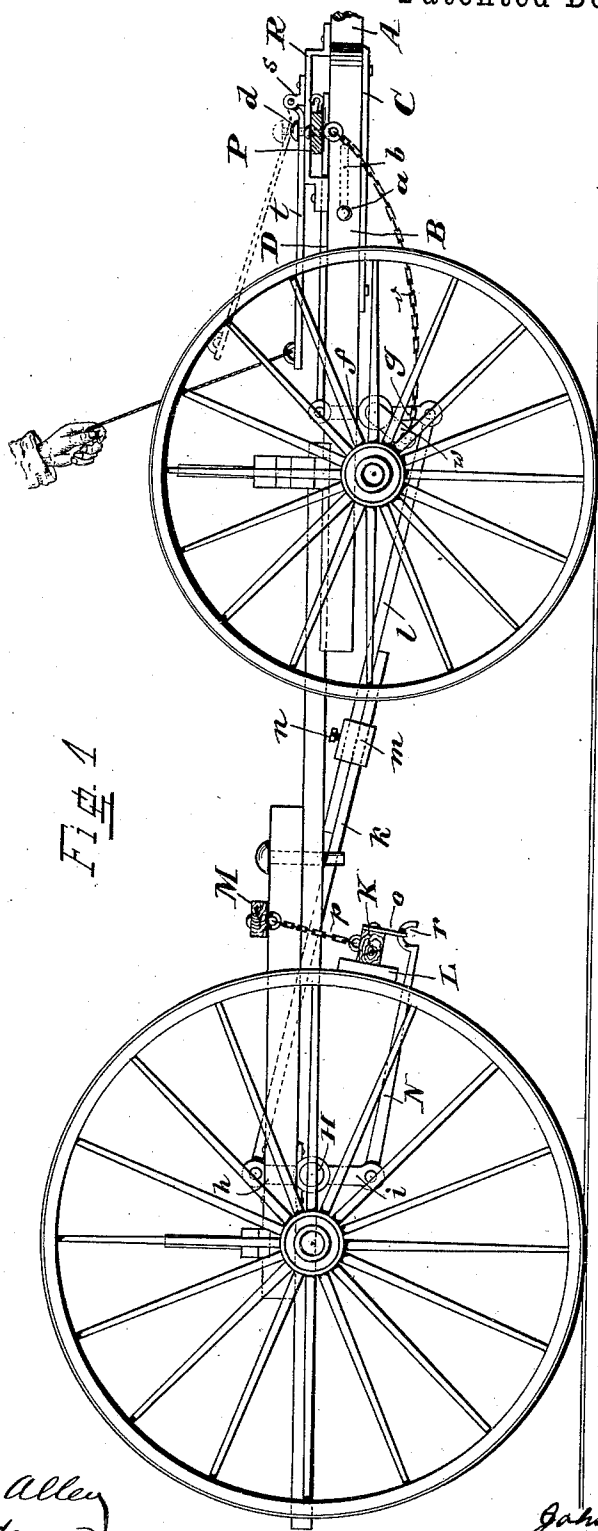


Fig. 1

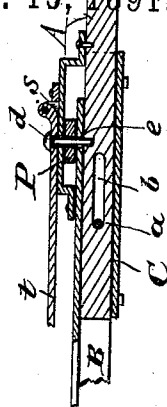


Fig. 2

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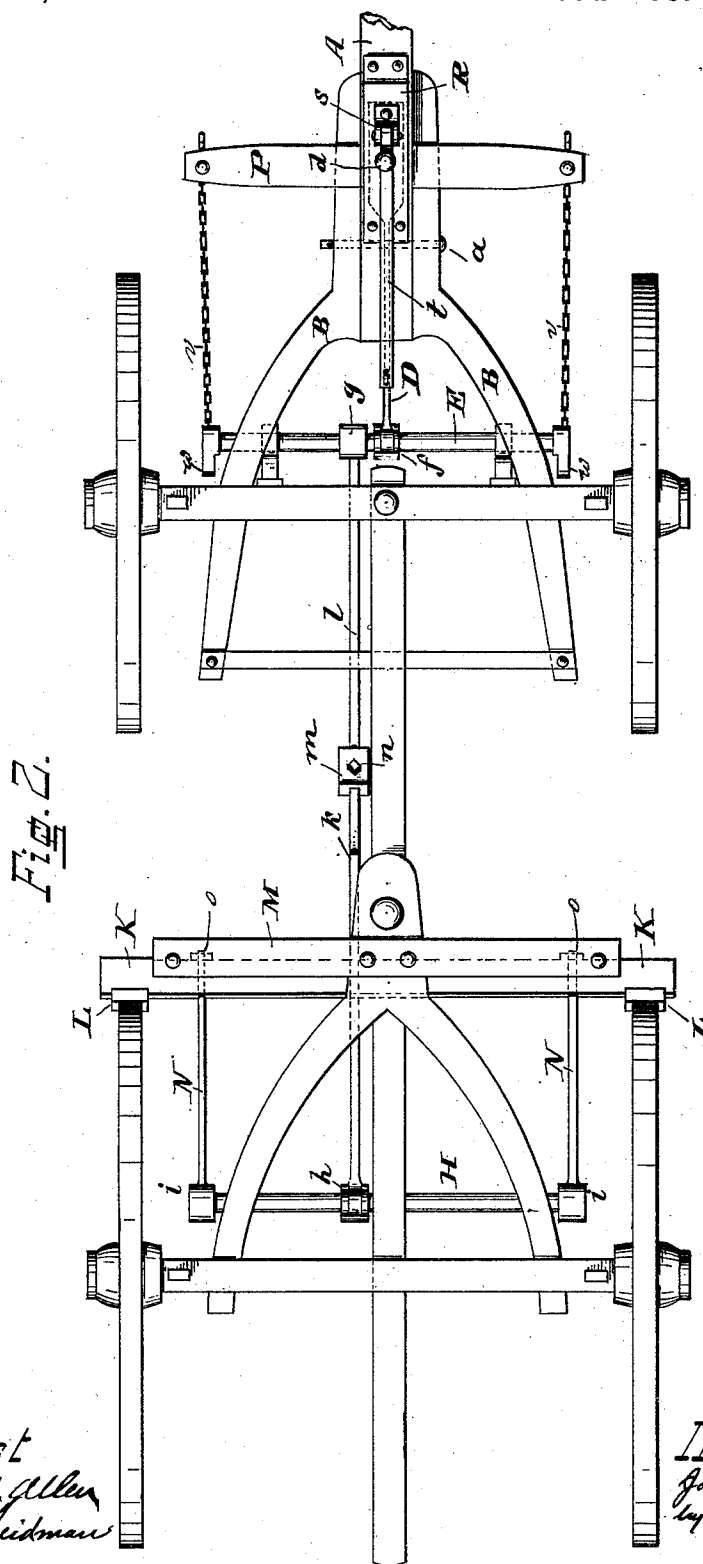
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2 Sheets—Sheet 2.

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VEHICLE BRAKE.

No. 464,966.

Patented Dec. 15, 1891.



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UNITED STATES PATENT OFFICE.

JOHN M. HARDIN, OF GEST, ASSIGNOR OF ONE-FOURTH TO GEORGE W. LAWRENCE, OF LOUISVILLE, KENTUCKY.

VEHICLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 464,966, dated December 15, 1891.

Application filed October 27, 1890. Serial No. 369,410. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. HARDIN, a citizen of the United States, residing at Gest, in the county of Henry, State of Kentucky, have
5 invented certain new and useful Improvements in Vehicle-Brakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My improvement relates to brakes for vehicles in which the brake is operated by the movement of the tongue, so that they will be set when the vehicle is traveling a downgrade and released on reaching a level or upgrade,
15 and also to means for setting the brakes in case of a runaway.

My invention consists in the novel construction and arrangement of parts herein-
20 after fully set forth, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a wagon to which my brake is attached. Fig. 2 is a top plan view of same. Fig. 3 is a vertical section of the rear portion
25 of the tongue, showing method of attaching same to hounds.

A is the tongue or pole of an ordinary two-horse wagon, which is attached to the forward hounds B B by the bolt *a*, passing horizontally through the same, the tongue having a longitudinal slot *b* to allow for a forward and backward movement of the tongue while still retaining it to the hounds. A plate C, bolted underneath the hounds, also supports the
35 tongue, so that it slides between the forward hounds and upon this plate C within the limits of the slot *a*.

Attached to the upper side of the rear end of the tongue A by the pin *d* is the bar or rod
40 D, which is slotted at *e* to allow a slight play. The rod D is connected with the arm *f* of the lever-shaft E, which is journaled in supports F F, attached to the hounds of the wagon. The lever-shaft E is also provided with another arm *g*, extending down from the shaft,
45 so that the rotation of the rock-shaft will move the arms *f* and *g* in opposite directions. A similar brake or lever shaft H with a similar arm *h* extending upward and two arms *i i*
50 extending downward at the end of the shaft is journaled to the vehicle at the rear, and

the arm *h* is connected with arm *g* by connecting-rods *k* and *l*, which are lapped and held together by box *m* and set-screw *n*, so as to allow adjustment of the length of these
55 connecting-rods.

The brake-bar K, provided with brake-shoes L L, is hung by the chains *p p* from a cross-bar M, bolted to the rear hounds of the vehicle. To the front of this brake-bar are secured the loops or hooks *o o*, which extend
60 downward from the brake-bar and by which the brake is connected with the arm *i i* by suitable rods N N, the connection between brake-bar and rod being pivoted by means of
65 the hooks *r r* at the ends of the rods N N. It will be seen from this construction that the moment the horses draw back on the tongue in the act of descending a hill the backward movement of the tongue will rotate lever-
70 shafts E and H, and the brake-shoes will be drawn firmly against the rear wheels, while the moment this pressure is relieved from the tongue the brake bar and shoes will be swung
75 away from the wheels. In backing the vehicle, however, although the action on the tongue will tend to set the brakes, inasmuch as the brake-bar is merely hung to the cross-bar M and pivotally connected with rods N N, the
80 revolution of the wheels in the opposite direction will allow the brake bar and shoes to swing up with the movement of the wheels out of the way, and thus it will be seen that it is only while the wheels are turning in the
85 direction to advance the vehicle that the drawing back of the tongue will set the brakes.

In order to obtain means for setting the brake in case of a runaway, I provide, further, as follows: By the same pin *d* which
90 attaches bar D to the tongue the doubletree P is also pivoted to the tongue, the stirrup R, bolted to the tongue, acting as a brace and support for the doubletree and pin. Above this stirrup and hinged thereto at *s* is a hand-lever *t*, and the pin *d* passes down
95 through this lever, the stirrup, and doubletree into a recess in the tongue, the head of the pin *d* being above the lever *t*, so that by drawing up the lever *t* by cord *u* the pin *d* may
100 be drawn out, as shown by dotted lines, Fig. 1, and thus allowing the doubletree to be drawn forward within the limits of the stir-

rup R. The outer ends of this doubletree are attached by chains *v* to a supplemental arm *w* on lever-shaft E, so that the drawing forward of the doubletree will rotate said shaft and thus set the brakes. All that need be done in case the team should endeavor to run away is to draw the pin *d*, when the brakes will at once be set.

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

1. In a vehicle-brake, the combination of the brake-shoes, the sliding tongue A, means connecting the tongue and brake-shoes, whereby the brake will be set and released, respectively, by the backward and forward movement of the tongue, the detachable double or whiffle tree P, means connecting the double or whiffle tree with the brake-shoes, whereby the brake will be set by the forward movement of said tree when the tree is detached, and means for detaching the said tree, substantially as shown and described.

2. In a vehicle-brake, the brake or lever shaft H and brake-shoes L, connected therewith, the lever-shaft E, means connecting the

brake-shaft H and lever-shaft E, the slotted movable tongue A, bolt *a*, rod D, detachable double or whiffle tree P, bolt *d*, and lever *t*, engaging said bolt, all constructed and combined substantially as shown and described.

3. In a vehicle-brake, the combination, with the brake-shoes, of the detachable double or whiffle tree P, means connecting the tree with the brake-shoes, whereby the brake will be set by the forward movement of the tree when said tree is detached, and means for detaching the said tree, substantially as shown and described.

4. In a vehicle-brake, the combination, with the brake-shoes, of the detachable double or whiffle tree P, means connecting the tree with the brake-shoes, whereby the brake will be set by the forward movement of the tree when the tree is detached, the bolt *d*, and lever *t*, engaging said bolt *d*, substantially as shown and described.

JOHN M. HARDIN.

Witnesses:

JAS. A. PARKER,
CHARLES H. HARPER.