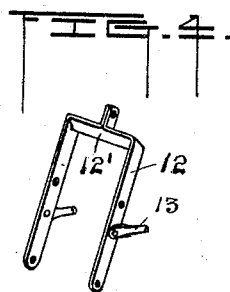
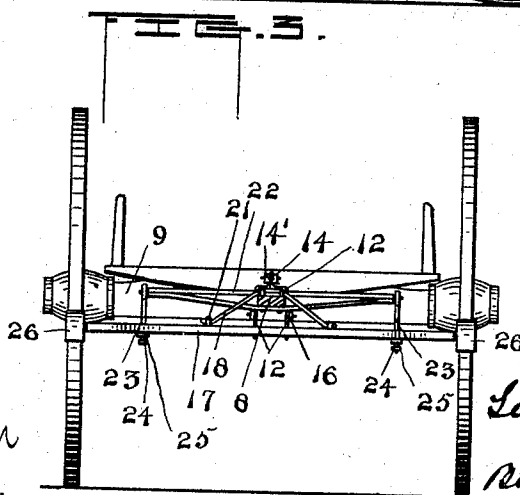
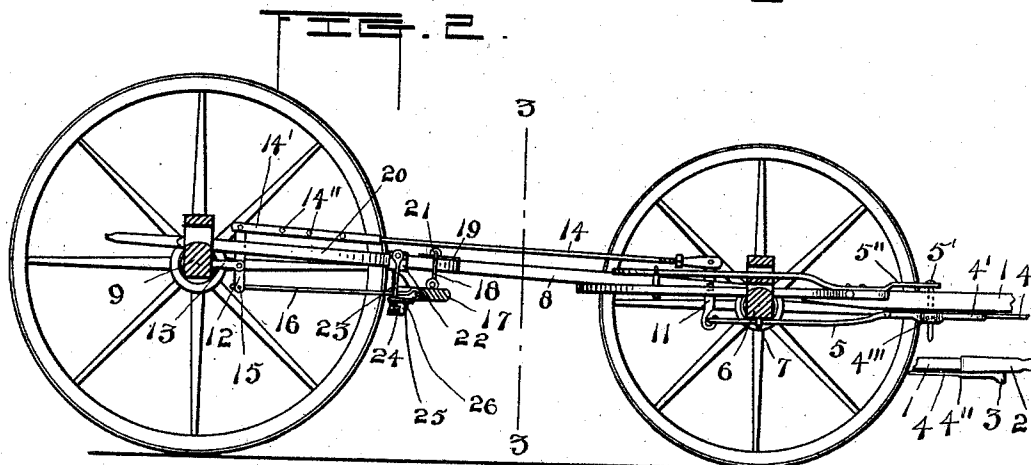
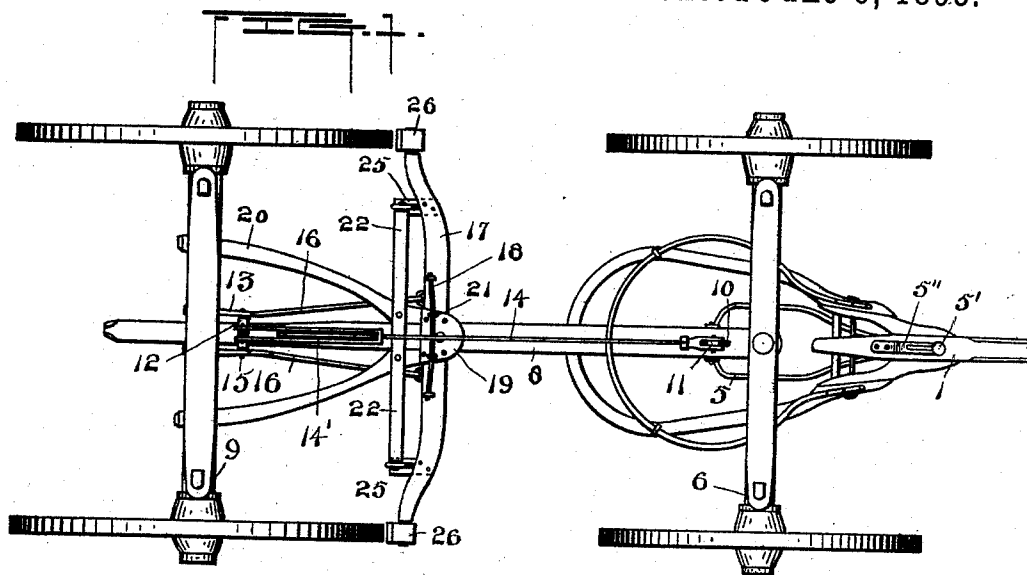


(No Model.)

L. E. LANE.
WAGON BRAKE.

No. 498,958.

Patented June 6, 1893.



Witnesses
Arch. M. Catlin
A. H. Kean.

Inventor
L. E. Lane
By
Ruf. R. Cardin
Attorney

UNITED STATES PATENT OFFICE.

LEVI E. LANE, OF LYONS, ASSIGNOR OF TWO-THIRDS TO EDWIN S. CORWIN,
OF PHELPS, AND CHARLES J. REHKUGLER, OF CLAVERACK, NEW YORK.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 498,958, dated June 6, 1893.

Application filed January 31, 1893. Serial No. 460,201. (No model.)

To all whom it may concern:

Be it known that I, LEVI E. LANE, a resident of Lyons, in the county of Wayne and State of New York, have invented certain new and
5 useful Improvements in Wagon-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

10 The invention relates to brakes for vehicles of the class adapted to be brought into operation by the team in holding back; and it consists in certain constructions hereinafter described and particularly pointed out.

15 In the accompanying drawings Figure 1 is a plan view of the running-gear of a wagon provided with my improved brake. Fig. 2 is a side view of the same partly in section. Fig. 3 is a transverse section on line 3—3 of
20 Fig. 1, and Fig. 4 is a detail.

Numeral 1 designates the tongue of the wagon, which is provided with a sleeve 2 loosely fitted on its free end and provided with a stop 3 for the neck-yoke. To the
25 sleeve 2 is secured one end of a flattened or half round rod, 4, which extends back under the tongue, and is connected by means of a casting 4' with a yoke 5. The rod 4 is provided with an offset 4'' at the end of sleeve
30 2 so that the flat side of said rod may be held in close contact with the tongue to avoid the danger of limbs, stalks, harness or other objects being caught between them and also to avoid the danger of bending a rod which
35 might otherwise be too light and small to resist the thrust. The rod is also connected to the upper part of casting 4' which latter is about fourteen inches in length and is enlarged at 4''' to receive the foot of the double-tree or evener bolt 5'. To retain the rod
40 and yoke in place, they are loosely secured to the tongue and to the axle 6 by means of staples 7.

8 indicates the reach, which extends from
45 the front axle 6, and the bolster to rear axle 9. In a slot 10 in the reach 8, near its forward end is pivoted a short lever 11, the lower end of which is formed to hook on the rear part of the yoke 5, which latter is curved substantially as shown, so that it will slide in the

hook on lever 11 when the front axle 6 is turned in either direction.

12 denotes a yoke pivotally supported between stud bolts 13 projecting from the rear axle 9, and 14 denotes a connecting rod loosely
55 joining the upper ends of the yoke 12 and lever 11. The yoke 12 has an edge formed by two planes 12' each of which acts as a stop to the rocking of the yoke. This rod is composed of two parts adjustably connected to
60 provide for suitably varying the length of the same to correspond to wagon bodies and racks of different lengths. One part of the rod as 14', is preferably made double to receive between its two members the overlapping
65 main portion of the rod. Each part may be provided with holes 14'' to receive a removable connecting bolt. The arms of the yoke are joined below their fulcrums in studs 13, by a bolt 15 each end of which is pivotally
70 connected by a rod 16 with a brake beam 17. The use of the yoke 12 pivotally supported as stated avoids the necessity of slotting the reach as in prior constructions and it also provides for the small vertical movements of
75 the connecting rod 14 and brake-operating rods 16.

Brake beam 17 is loosely supported by a swinging yoke 18 pivotally held on the reach. By preference plates 19 adapted to tie to-
80 gether the reach and the front ends of the hounds 20 are provided with fastening bolts having eyes 21 to receive the yoke 18 whose pendent members support the brake bar and permit it to swing freely. The hounds and
85 reach are further tied by the beam 22 composed of two members one above and one below the reach the outer ends of which are fastened together and made to support depending
90 swinging rods 23 provided on their free ends with adjustable nuts 24.

25 denotes staples or slotted bars made fast on the brake beam to receive the rods 23. The nuts 24 are of such relative size that they prevent the rods 23 from being withdrawn
95 from the staples.

The brake shoes 26 are loosely supported on the ends of beam 17 in the same vertical planes as the wheels and a little below the horizontal plane passing through the axles. 100

The inner bolt 5' passes through a slot in the tongue and a corresponding slot in strap 5" so that it can be moved back and forth by rod 4 to which it is fixed.

5 In operation when it is desired to apply the brake without arresting entirely the forward movement of the wagon, as on a descending grade it is only necessary that the horses hold back so that the sleeve 2 and rod 4
10 are pulled back in manner to move lever 11 about its fulcrum to pull forward the rod 14 and tilt yoke 12 with the effect to draw the brake beam backwardly and force the shoes against the wheels. The beam and shoes being supported below the horizontal center of
15 the wheel and at their lowest position and so held that they cannot ascend except in practically a straight line it is obvious that forward motion of the wheels is resisted by the
20 friction of the brake shoes. But the backward motion of the wheels is not so resisted because the shoes are automatically turned on their pivots and the beam is tilted and raised in that case by a slight friction on the shoes so
25 that the latter slide freely on the wheels. The loose supports of the beam provide for this latter operation.

I am aware that a wagon brake has heretofore been combined with a sleeve on the end
30 of the pole and with intermediate connecting mechanism whereby in holding back the load, the team applied the brake, the mechanism being inoperative unless the wagon is forced forward, as by gravity, as set forth in patent to
35 Lane and Hilliard, No. 400,228, granted March 26, 1889, and such devices broadly are not of the present invention.

It is characteristic of my improvement that yoke 12 is supported from the axle by means
40 such as described in manner not to materially weaken the reach and that said yoke rests by a knife edge upon the top of the reach and has two inclined planes above said edge to constitute stops therefor.

45 My improvement is further distinguished by the attachment of both beams 22 and the plate 19 to the hounds in such manner as to secure them in rigid position adjacent to the reach and that the necessity of slots in the
50 latter both at this point and at the connection of the rear yoke 12 is avoided.

The improvement also includes a flattened connecting rod 4 provided with an upward
55 offset 4" whereby said rod is held in close contact with the pole to avoid danger of bending the rod or catching objects between it and the pole.

Having thus fully described my invention, what I claim is—

60 1. In a vehicle, the brake beam provided with pivoted shoes, the yoke to suspend the

beam, the bar 22 having two members fixed to the hounds one above and one below and provided with loosely hanging rods 23, the yoke 12 pivotally supported from the axle and
65 provided with an edge resting on the reach, the rods connecting the lower part of said yoke with the brake beam, the reach, the tongue and its movable sleeve and intermediate connecting rods and levers all combined
70 and operating substantially as set forth.

2. In a vehicle, the brake beam provided with pivoted shoes, the yoke to suspend the beam, the bar 22 having two members fixed to the hounds one above and one below and
75 provided with loosely hanging rods 23, said rods having adjustable nuts 24, the yoke 12 pivotally supported from the axle and having a bearing on top of the reach, the rods connecting the lower part of said yoke with the
80 brake beam, the tongue and its movable sleeve and intermediate connecting rods and levers all combined and operating substantially as set forth.

3. In a vehicle, the brake beam provided
85 with pivoted shoes, the yoke to suspend the beam, the bar provided with loosely hanging rods 23, the yoke 12 pivotally supported from the axle and having a bearing on the top of the reach, the rods connecting the lower part of
90 said yoke with the brake beam, the tongue and its movable sleeve and intermediate connecting devices consisting of a rod 14, lever 11, yoke 5 and flat bar 4 provided with the offset 4" all combined and operating substan-
95 tially as set forth.

4. In a vehicle the brake beam and shoes, the beam-suspending yoke, the plate 19 to support the yoke, the bar 22 and suspending
100 swing rods, said rods and yoke being loosely connected to the beam, and the plate and bar both being made fast to the hounds to tie them together in proximity to the reach, said hounds and reach, and mechanism for operating the brake all combined substantially as
105 set forth.

5. In a vehicle the brake beam, the yoke suspending said beam from the reach, the rods provided with adjustable nuts to limit the descent of the beam, the yoke 12 pivotally sup-
110 ported from the axle and provided with an edge resting on the reach and the rods 16 to draw the beam to the rear and mechanism for moving the yokes about their fulcrum, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

LEVI E. LANE.

Witnesses:

H. T. VAN CAMP,
WILLIAM O. FILER.