

(No Model.)

2 Sheets—Sheet 1.

E. S. CHATFIELD.
AUTOMATIC WAGON BRAKE.

No. 578,078.

Patented Mar. 2, 1897.

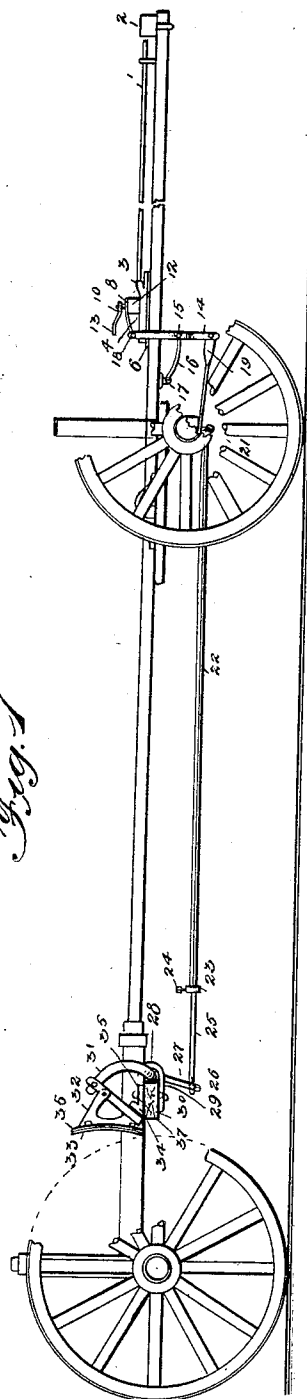


Fig. 1.

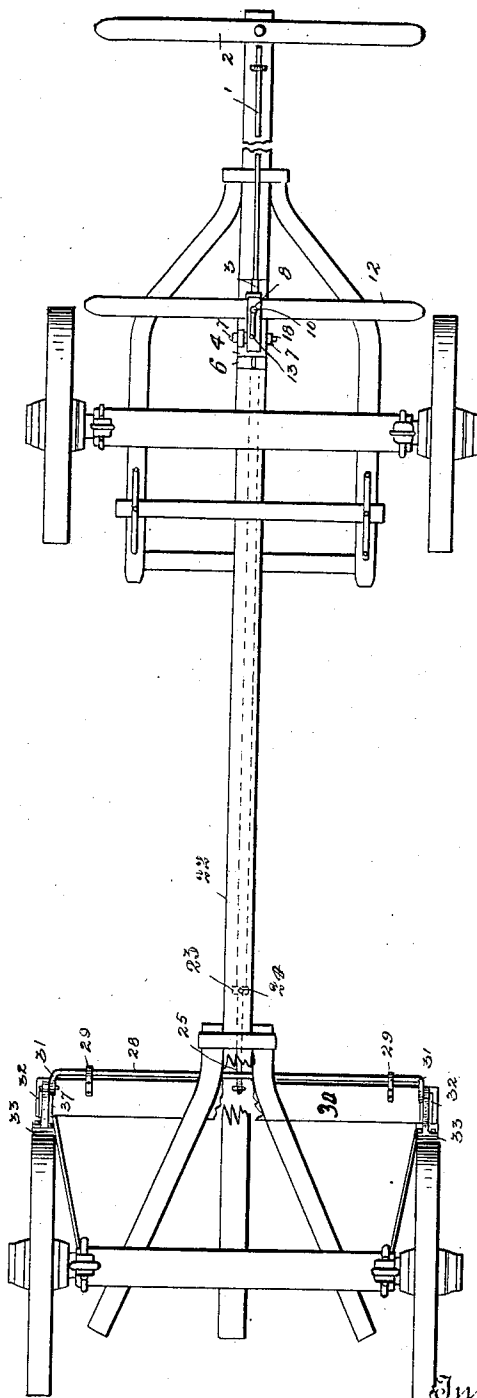


Fig. 2.

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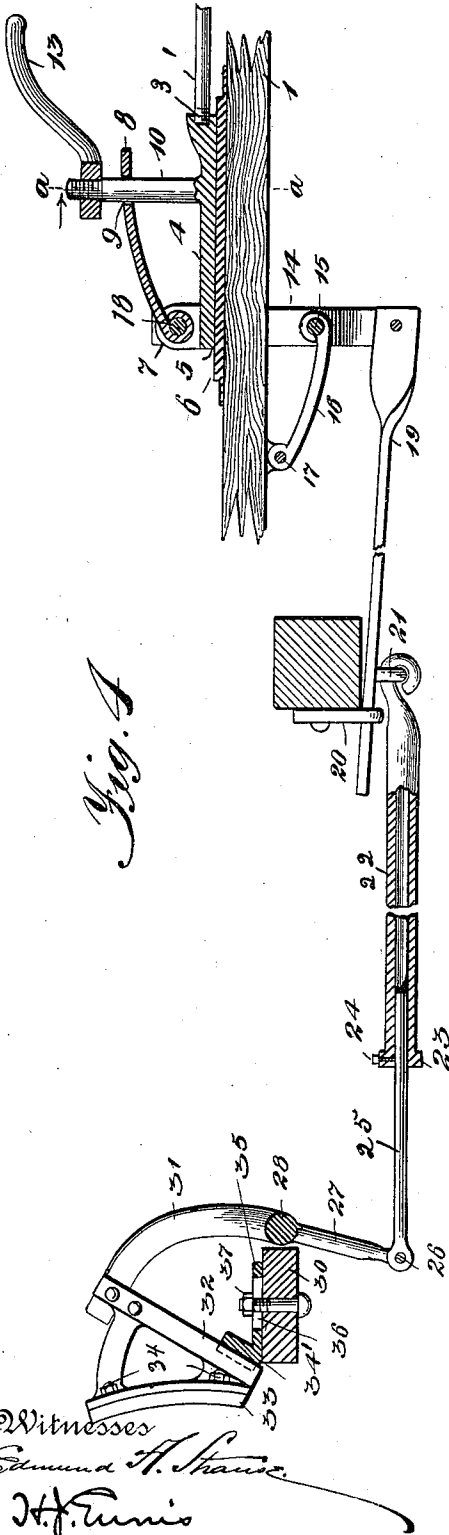
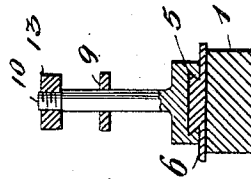


Fig. 3



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UNITED STATES PATENT OFFICE.

EBEN S. CHATFIELD, OF ADDISON, NEW YORK.

AUTOMATIC WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 578,078, dated March 2, 1897.

Application filed November 19, 1896. Serial No. 612,741. (No model.)

To all whom it may concern:

Be it known that I, EBEN S. CHATFIELD, a citizen of the United States, residing at Addison, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Automatic Wagon-Brakes; and I do 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 appertains to make and use the same.

My invention has relation to improvements in the construction of automatic wagon-brakes, and more particularly to that class wherein the team holding back on the wagon or the wagon riding up on the team, as is the case in going downhill, will automatically apply the brake. The object is to provide a simple and effective device for this purpose; and to this end the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference-numerals indicate the same parts of the invention.

Figure 1 is a side elevation of my improved automatic wagon-brake. Fig. 2 is a plan view of the same. Fig. 3 is a vertical transverse section on the line *a a* of Fig. 4, and Fig. 4 is a central longitudinal section of the brake.

The vehicle represented in the drawings is an ordinary lumber-wagon; but of course it will be understood that my improved automatic brake is applicable to all the ordinary double-team vehicles.

1 represents a rod extending along the top of the tongue, its forward end resting against the breast-tree 2 and its rear end secured in a socket 3 on the forward end of the longitudinal shoe 4, the bottom of which is formed with a longitudinal dovetail slot 5, which slides freely on the reversely-shaped web 6, secured to the tongue. The upper face of the rear end of said sliding shoe 4 is provided with integral parallel ears 7 7, between which is pivoted the rear end of a strap 8, the free end of which projects forward and is provided with a vertical orifice 9, which receives the upper end of the threaded vertical stud 10, formed integral with the shoe 4. The doubletree 12

is mounted on this stud, and a hand-nut 13, pressing on the forward end of the strap, holds the tree in place.

14 is a lever fulcrumed on a bolt 15 in the forward end of a bar 16, secured at its rear end to an eyebolt 17 in the tongue. This lever 14 has two projecting arms which extend upwardly on each side of the tongue and parallel with the ears 7 7 of the shoe, a bolt 18 securing the arms of the lever 14 and the end of the strap 8 to the ears 7 7. The lower arms of the lever 14 converge, and between them is pivoted the forward end of a bar 19, the rear end of which slides freely through a guide 20, secured to the forward axle.

21 is an eyebolt swiveled in the bar 19 approximately in a vertical line below the king-bolt. 22 is a tubular connecting-rod, the forward end of which is hinged to the eyebolt 21, while its rear end terminates in a collar 23. The forward end of a short solid rod 25 is adjustably secured in the tubular rod 22 by a set-screw 24 in said collar, and its free end is pivoted by a bolt 26 to the lower end of an integral lever 27 on the rock-shaft 28, mounted in bearing-straps 29 29, secured to the stationary brake-beam 30, mounted on the rear hounds. The outer ends of this shaft 28 are bent upwardly at a right angle to form curved crank-arms 31 31, and to the upper end of each arm 31 is pivoted the rear end of a V-shaped sliding bracket 32, to the front face of which is detachably secured a removable brake-shoe 33 by the bolts 34 34. The lower end of this wedge-shaped bracket 32 is in sliding contact with an arm 34' of a bracket 35, formed with a slot 36, through which bolts 37 37 pass to adjustably secure it to the end of the fixed brake-beam 30, so that the arm 34' can be tangentially adjusted with reference to the rear wheels.

The operation of the device is very simple and automatic in its action, for when a back pressure is applied to the breast-tree the rod 1 is forced, pushing the shoe 4, doubletree 12, and upper end of the lever 14 with it. This draws the lower end of the lever 14 forward, and by means of the bar 19 and rod 22 pulls the lever 27 of the rock-shaft 28 forward, causing the crank-arms 31 31 to insert the wedge-shaped bracket 32 between the arms 34' and the tire of the wheel, and as soon as this

is done the friction of the tire on the brake-shoe jams the bracket 32 between the tire and the rigid arm 34', thereby practically and instantly locking the wheels. As soon as the
 5 team puts a strain on the doubletree 12 it draws the shoe 4 forward, and through the reverse motion of the lever 14 the rock-shaft 28 raises the wedge-shaped brackets 32 from between the arms 34' and the tires, thereby
 10 releasing the wheels.

It will be noticed that the eyebolt 21 on the bar 19 is vertically beneath the king-pin. This allows the front axle to turn to the right or the left without moving the connecting-
 15 rod 22, which would be the case if a continuous rod were connected from the lower end of the lever 14 to the lever 27 on the rock-shaft.

Although I have specifically described the construction and relative arrangement of the
 20 several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

25 Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

An automatic wagon-brake comprising the

rod 1 connected to the shoe 4, the latter provided with a longitudinal dovetail slot 5, 30 which engages a reversely-shaped web 6 secured to the tongue, said shoe being formed with integral vertical ears 7 7 and a threaded vertical stud 10 upon which the doubletree 12 35 is mounted, the lever 14 fulcrumed in the forward end of the pivoted bar 15 and having its upper end pivoted to the ears 7 7 of said shoe, the bar 19 pivoted at its forward end to the lower end of said lever, and its rear end 40 engaging a guide 20 fixed on the forward axle, and provided with an eyebolt 21, in combination with the adjustable connecting-rod 22 25, the rock-shaft 28 mounted on the fixed brake-beam 30 and provided with the integral 45 lever 27 and crank-arms 31 31, the brackets 35 mounted on said fixed brake-beam and provided with the integral arms 34', and the wedge-shaped bracket 32 pivoted to the crank-arms 33 33 and in sliding contact with 50 the arm 34' of the brackets 35, substantially as and for the purpose set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

EBEN S. CHATFIELD.

Witnesses:

H. K. CHATFIELD,
 L. C. WALKER.