(No Model.)

W. E. STEVENS.

WAGON BRAKE.

No. 423,454. Patented Mar. 18, 1890.

Fig. 1.

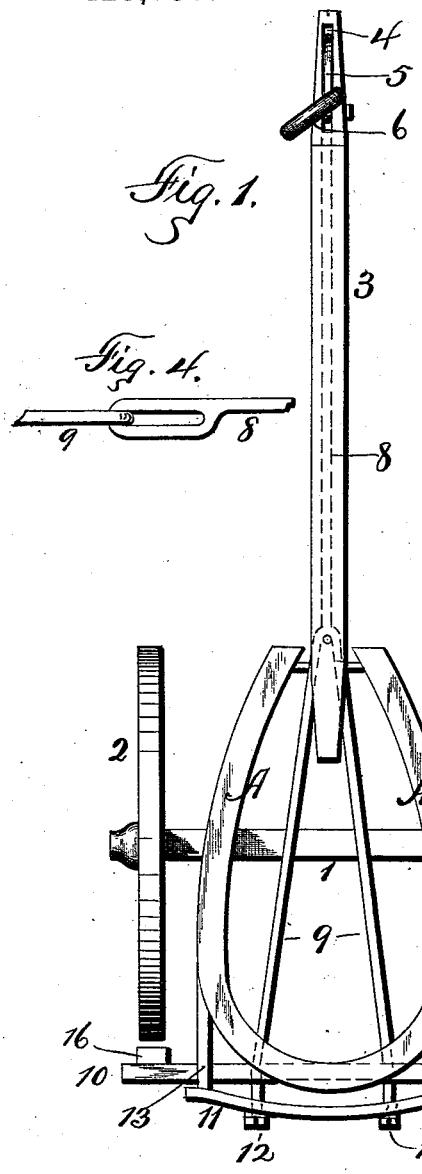


Fig. 2.

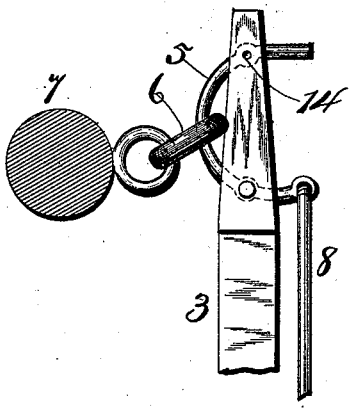


Fig. 4.

Fig. 5.

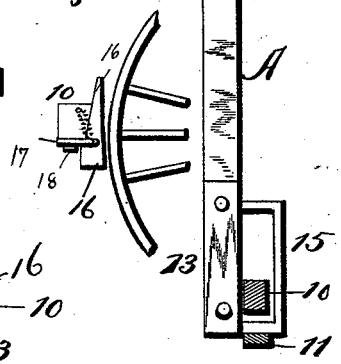
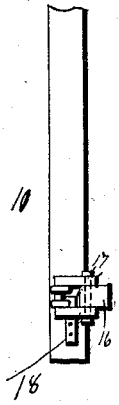


Fig. 3.

Fig. 6.



Witnesses
H. P. Denison
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By his Attorneys
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UNITED STATES PATENT OFFICE.

WILLIAM E. STEVENS, OF SOUTH WEST OSWEGO, NEW YORK.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 423,454, dated March 18, 1890.

Application filed December 2, 1889. Serial No. 332,191. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. STEVENS, of South West Oswego, in the county of Oswego, in the State of New York, have invented new and useful Improvements in Wagon-Brakes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to vehicle-brakes, and especially to those which are designed to be operated by the horses through devices connecting the neck-yoke to the brake-beam.

My object is to provide an efficient brake operated entirely by the horses by the backward strain upon the neck-yoke, which, through its connections, draws the brake-beam toward and the shoes against the wheels.

My invention consists in the several novel features of construction and operation hereinafter described, and specifically set forth in the claim annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of the front wheels, hounds, and pole of a wagon. Fig. 2 is a side elevation of the outer ends of the pole, neck-yoke, and eye, and crank-lever, and brake-rod, with neck-yoke in transverse section. Fig. 3 is a sectional detail showing the hounds-extension, the loop thereon supporting the brake-beam and the brake-beam and spring in section. Fig. 4 is an elevation of the elongated eye-joint at the front of hounds and under the pole between the brake-rod 8 and the bifurcated rearward extension thereof. Fig. 5 is a side elevation of my brake-block, showing its mounting upon the brake-beam. Fig. 6 is a bottom plan view of the same.

A is the hounds, carried by the axle 1 and wheels 2, and 3 is the pole connected to the front end of the hounds. In the front ends of the pole I cut a vertical mortise 4, in which I pivot the hook-shaped crank-lever 5, the hook being adapted to receive the ring 6 of the neck-yoke 7, and the lever-arm of the crank being hinged to the brake-rod 8, which is carried back under the pole to the hounds, where it is hinged, as shown in Fig. 4, to the bifurcated bars 9, which constitute the brake-rod extension. The rear end of these bars pass through the brake-beam 10 and are secured therein, and their outer ends are threaded to receive the nuts 12, which bear against the back of the spring 11, which consists of a flat strip of spring metal. The outer ends of the spring bear against the hounds-extension 13, are supported thereby or by the bars 9, so that the tension of the spring is adjusted by the nuts, and the spring-tension operates to hold the brake-shoes away from the wheels. As soon as the wagon starts down hill and the team begins to hold back, the strain upon the neck-yoke ring throws the crank-arm forward, and this pulls the brake-shoes 16 against the wheels with a pressure according to the strain, and when the wagon reaches a level the spring will throw the shoes away fram the wheel again. The brake-beam is carried and slides in loops 15 under the extension 13 and the spring-bars against the loop. The shoe 16 is supported by a clevis 17, which is hinged to the bottom of the brake-beam, and the shoe is bolted between the clevis-arms, and 18 is a spring which holds the clevis up against the beam and the shoe against the front of the beam, aided by a small shoulder on the shoe, (not shown in the drawings,) which catches upon the lower corner of the beam. This shoe operates in the usual manner when applied to the wheel by forward pull on the brake-rod when the team is holding back; but when the team backs up the reversal of the movement of the wheel it will, by its frictional contact therewith, throw the lower end of the shoe backward upon its pivot-bolt and prevent any close or strong contact between the shoe and wheel, leaving the wheel substantially free to rotate. The brake-shoe and clevis can also be held up against the beam by a coiled spring connected to the beam and shoe or clevis-arm, substantially as shown by the dotted lines.

What I claim, and desire to secure by Letters Patent, is—

The combination, with the neck-yoke, the pole, the hounds, and the wheels, of a hooked crank-arm pivoted in and projecting above it to receive the neck-yoke ring, a brake-rod hinged to the lower end of the crank-arm below the pole and extending back beneath the

pole with a bifurcated rearward extension, hinged to the rod beneath the joint between the pole and the hounds, having its rear arms passing through the brake-beam and the spring 11, with the tension-nuts upon their outer ends bearing against the spring, the spring bearing against the hounds, the brake-beam supported and sliding in loops beneath the hounds, and the shoes upon the brake-beams, as set forth.

In witness whereof I have hereunto set my hand this 29th day of October, 1889.

WILLIAM E. STEVENS.

In presence of—
G. W. SMITH,
H. P. DENISON.