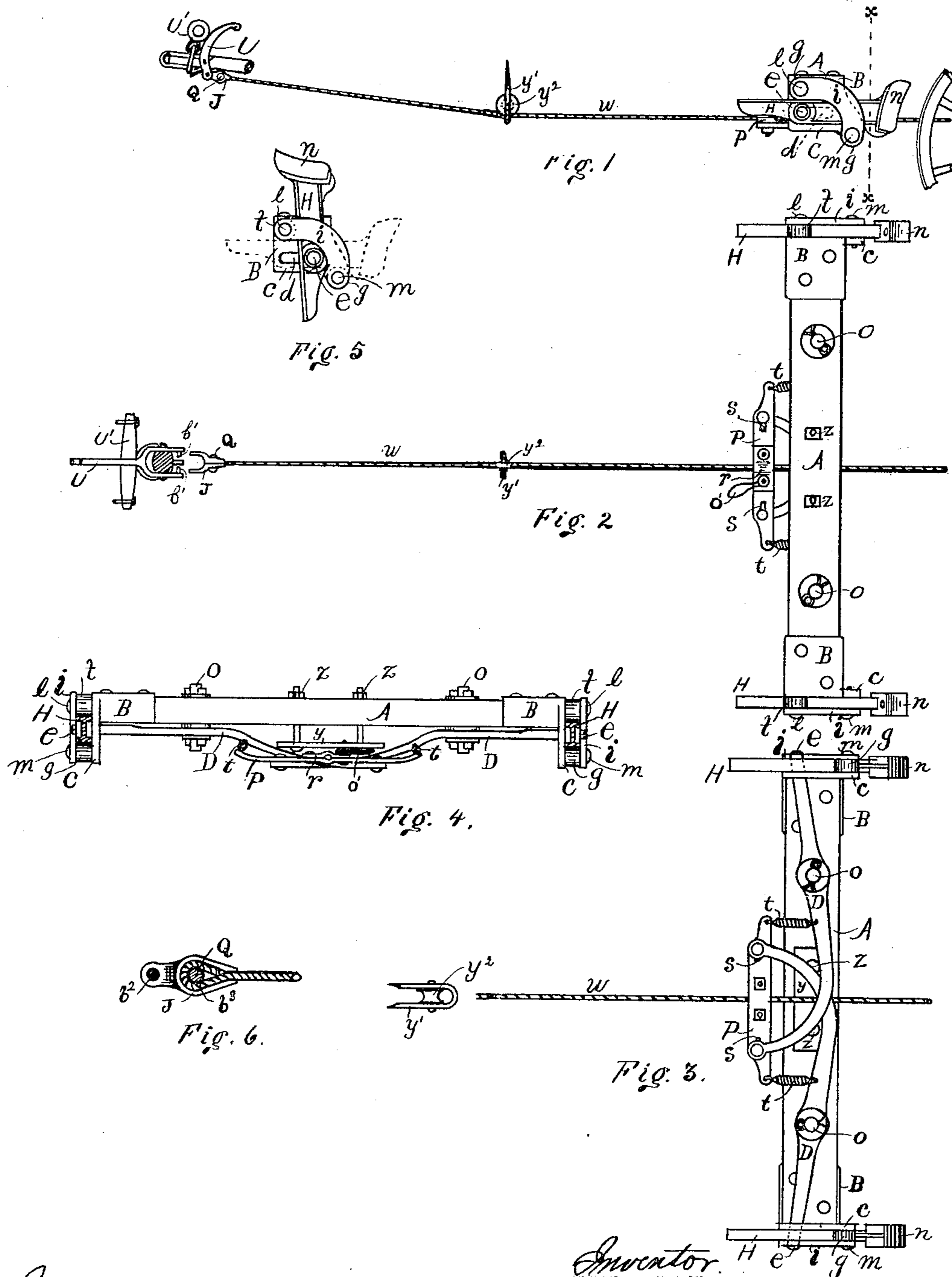


(No Model.)

E. HORTON.
WAGON BRAKE.

No. 389,303.

Patented Sept. 11, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

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WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 389,303, dated September 11, 1888.

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To all whom it may concern:

Be it known that I, EMMET HORTON, a citizen of the United States, residing at Dundee, in the county of Yates and State of New York, have invented a new and useful Improvement in Wagon-Brakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part thereof, and to the letters and figures marked thereon.

My invention relates to improvements in automatic wagon-brakes; and it consists in the general construction and arrangement of its parts, more particularly set forth hereinafter, and pointed out in the claims.

Figure 1 is an elevation of the brake as applied to a wagon. Fig. 2 is principally a plan view of same. Fig. 3 is a view of the under side of same. Fig. 4 is a front view of the bar and its attachments. Fig. 5 is an elevation of the brake or friction block in non-acting adjustment. Fig. 6 is a sectional view of the wire-rope coupling.

Similar letters refer to similar parts throughout the several views.

A represents a laterally-arranged bar passing over the rear hounds of the wagon and adapted to be rigidly secured thereto by means of clamping-bolts *z z*, passing downward through the bar, and an under plate, *y*, gripping the hounds between the plate and bar. To either end of said bar A is bolted on a capping-plate, B, having a vertically outward-facing portion, *c*, which extends downward below the bar sufficiently to have through it a horizontal slot, *d*, through which the outer end, *e*, of a lever, D, may pass. Projecting from said vertical portion *c* of the bar A are studs *f g*, that may be provided with frictional rollers, but that have their location relatively with the location of the slot *d* and confine between them an independent plunger-bar, H, pivoted upon the moving end *e* of the lever D, outside the slot through which it passes. The relative positions above referred to which these studs bear to said slot and lever carrying the plunger-bar are such as to receive vertical strain in preventing the plunger-bar from falling below a horizontal position when acting rearwardly upon the wheel of the vehicle, and to admit of said bar assuming a little more than a vertical position when thrown up, as

shown in Fig. 5, occurring when the wheel of the vehicle is reversed or backed. A curved plate, *i*, secured by bolts *l m* to the outer end of the studs *f g*, prevents said plunger-bar from coming off the end *e* of the lever which passes through it, and guides said bar in its action upon the wheel.

A frictional block, *n*, meeting the tire of the wheel when the brake is acting, is detachably secured to the rear end of the plunger-bars H.

Running along the under side of the bar A from either end, and pivoted upon a bolt, *o*, passing down through the bar, are the levers D, the shorter arm of each one connecting the plunger-bar, as heretofore described, while the longer arms of the levers pass by each other and curve sufficiently forward near the center of the bar A to have connecting them at their ends a secondary bar, P, having bolted to its center a short gripping-plate, *r*, and slotted openings *s* where connected by bolts, to permit requisite play of the levers. Connecting the longer arm of each lever near its fulcrum and the end of this secondary bar P are springs *t*, resting in off brake.

We now come to the primary braking-lever U, its lower portion being halved or separated in U form and pivoted astride and to the tongue in such position that its upper single arm, which curves slightly rearward, may be acted upon by the neck-yoke U' in any movement backward from an upright central line, thus receiving and imparting the power exerted by the neck-yoke upon said lever in an increased ratio through the medium of a flexible wire rope, *w*, and its coupling J to the levers of the brake.

The coupling J is made in halves and of U form in plan to meet and couple in any convenient manner the two lower arms of lever U below the tongue, and provided with a bolt, Q, passing horizontally through the body of the coupling, and about which the rope encircles and is clamped as the halves of the coupling are drawn together upon it, Fig. 6, the rear end of said wire rope being adjustably clamped between the bar P and its plate *r* by means of the hand-nut *o'*.

A staple, *y'*, provided with a small grooved pulley, *y''*, is driven astride the wire rope into the under side of the forward axle-tree at or near its center, that the rope may pass over the pulley within the staple, and thus be re-

lieved of friction that would otherwise occur with the axle at this point.

It will be seen that when the device is in off brake its springs *t* are at rest, and that expansion takes place in any forward deflection of the longer arms of the levers *D*. Thus a release of pressure by the neck-yoke through its connecting parts permits the springs to return the device to a normal position of rest or off brake.

Having thus described my improvement, what I claim as new, and wish to secure by Letters Patent, is—

1. A wagon-brake consisting of a laterally-arranged bar, *A*, provided with levers *D*, each having to its shorter arm pivoted movably therewith a plunger-bar, *H*, and their longer arms connected by having a dependent secondary bar, *P*, attached thereto, and suitable mechanism whereby the separation or drawing apart of the two bars against the action of one or more springs causes frictional blocks *n* to move to application, substantially as described.

2. A wagon-brake consisting of a laterally-arranged bar, *A*, provided with horizontal levers, each having its longer arm passing by each other at the center of the bar and connected by having a dependent secondary bar, *P*, attached thereto, and suitable mechanism whereby the separation or drawing apart of the two bars causes frictional blocks to move to application, said bars being separated by a flexible rope connecting the dependent bar *P*, and a primary lever, *U*, vertically secured to the tongue of the wagon, substantially as described.

3. A wagon-brake consisting of a laterally-arranged bar, *A*, having horizontal levers *D* pivoted thereto, and operating plunger-bars *H*, provided with frictional blocks *n*, the in-

ner end of the levers passing by each other at the center of the bar and connected by a dependent bar, *P*, substantially as described.

4. In a wagon-brake, the laterally-arranged bar *A*, having at either end studs *f g* projecting therefrom, in combination with an independent frictional plunger-bar movably pivoted between said studs, substantially as described.

5. In a wagon-brake, in combination, the laterally-arranged bar *A*, bolts *o*, levers *D*, having their longer arms passing by each other at the center of the bar, the dependent secondary bar *P*, having slot *s*, or its equivalent, and springs *t*, arranged to connect the levers with said dependent bar, substantially as described.

6. In a wagon-brake, the lever *U*, vertically secured to the wagon-tongue, levers *D*, having dependent secondary bar *P* attached thereto, having clamping-plate *r*, and their connecting flexible rope, in combination with the tongue and neck-yoke of the wagon, by which they receive motion, substantially as described.

7. In a wagon-brake, lever *U* and wire rope *w* and secondary bar *P*, in combination with levers *D* and bar *A*, having frictional plunger-bars *H*, substantially as described.

8. In combination, in a wagon-brake, the primary lever *U*, having inward-projecting studs *b'*, and the coupling *J*, halved and punctured at *b²* to receive said studs, and at *b³* to receive through each half the bolt indicated by *q*, and about which an inward circular cavity is made to receive and grip the wire rope, substantially as described.

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Witnesses:

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