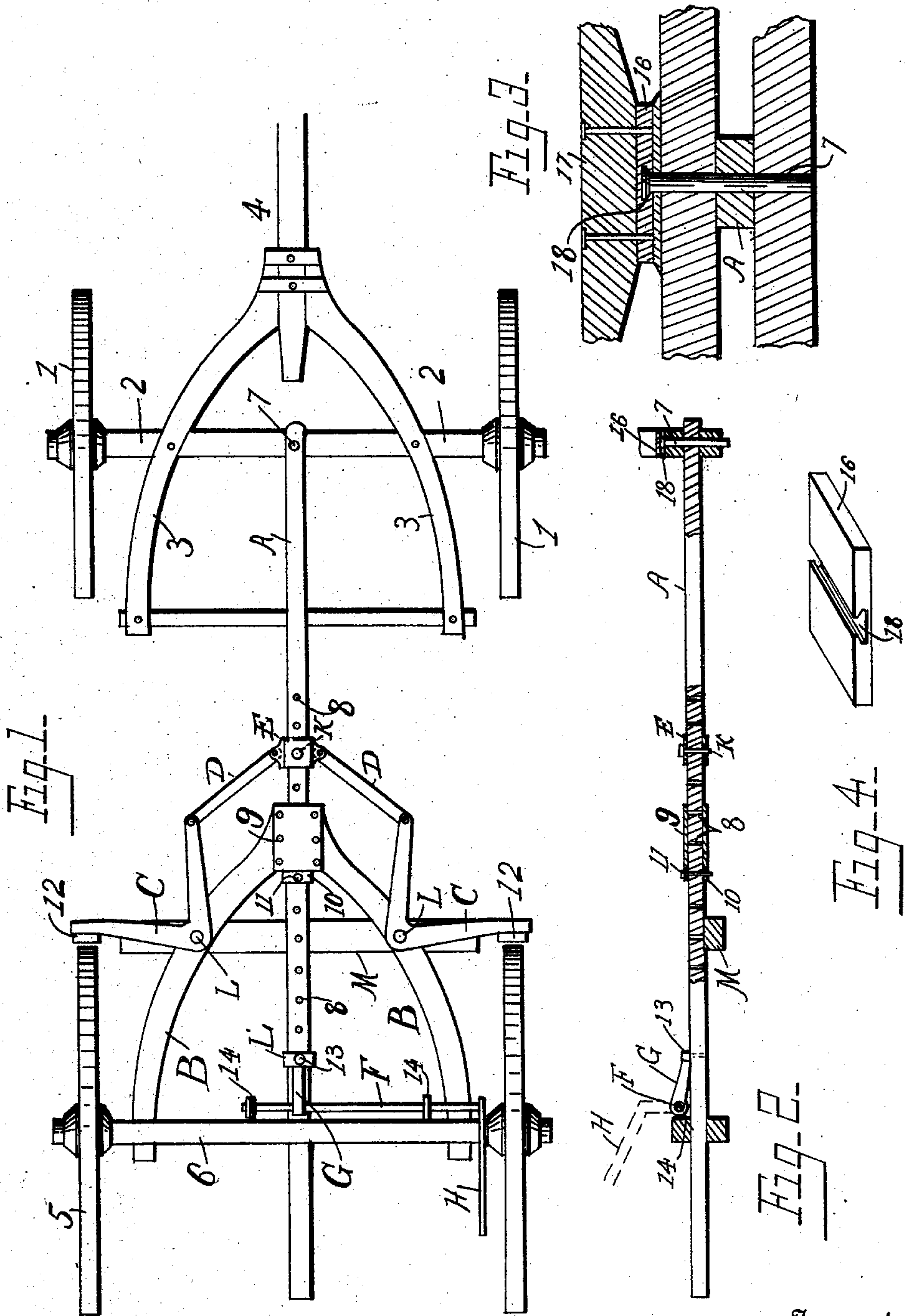


(No Model.)

J. G. ROBINSON.
AUTOMATIC WAGON BRAKE.

No. 605,135.

Patented June 7, 1898.



Witnesses
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JOHN GIBSON ROBINSON, OF WARSAW, KENTUCKY.

AUTOMATIC WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 605,135, dated June 7, 1898.

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To all whom it may concern:

Be it known that I, JOHN GIBSON ROBINSON, of Warsaw, county of Gallatin, State of Kentucky, have invented certain new and useful Devices and Improvements in Automatic Wagon-Brakes; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part a thereof.

My invention has relation to improvements in automatic wagon-brakes; and the object is to provide and construct a brake for road-vehicles which is automatically operated by the forward and backward movement of the hind carriage of the vehicle, so that when the vehicle is moving down a declivity a sliding forward movement of the hind carriage will actuate the brake-levers and cause them to brake the wheels and prevent the rapid descent of the vehicle without the backing force of the team being brought into requisition, and when the vehicle has reached the level the brakes will be automatically released.

My invention is fully and clearly illustrated in the accompanying drawings, forming part of this specification, and wherein—

Figure 1 is a plan view of the running-gear of a wagon having my improved automatic braking mechanism mounted thereon. Fig. 2 is a longitudinal section through the coupling-pole and cross-section through the front bolster and fifth-wheel, showing also in end and side view the mechanism for preventing the forward movement of the hind carriage. Fig. 3 is a detail central longitudinal section through the bolster, the fifth-wheel, and axle, showing the slotted plate on the bolster and the arrangement of the king-bolt in the slotted plate on the bolster. Fig. 4 is a view of the bolster bearing-plate.

Referring to the drawings, 1 1 designate the front wheels of the wagon; 2, the axle arranged therein; 3 3, the hounds, and 4 the tongue. These are all of the usual construction. 5 5 designate the hind wheels carrying the axle 6, and B designates the hind hounds. With the exception of the hounds these also are of any usual and approved construction.

A designates the coupling-pole, held by the king-bolt 7 to the front carriage and pro-

vided with a plurality of pin-holes 8, through which pins are projected and held, as will be hereinafter specifically stated. The forward ends of the rear hounds B are secured together by upper and lower rounded plates 9 9, having flanges overlying the tongues of the hounds and properly secured thereto, substantially as shown. These plates constitute a sleeve, through which the coupling-pole is passed and loosely and slidingly disposed, so that under ordinary progression of the vehicle down a declivity the hind carriage will tend to be moved and carried forward, sliding the sleeve on the coupling-pole and actuating the brakes, as hereinafter specified.

To limit the backward movement of the hind carriage and to hold the sleeve and the carriage in normal position when the vehicle is being drawn on an ordinary level road or street, I provide an adjustable collar 10, passed over the coupling-pole, and secure it in any position desired and determined upon by a pin 11, passed through registering pin-holes in the collar and projected through one of the pin-holes in the coupling-pole. This collar 10 is arranged at such a point on the coupling-pole as to prevent the sleeve 9 from moving back farther than it is desired, and in this function constitutes a stop.

C C designate the brake-levers. These brake-levers are elbow-levers in shape and carry on their braking-arms brake-shoes 12 of any suitable construction, adapted to brake on the perimeters of the wheels, substantially as seen in the drawings. The inner arms of the brake-levers are preferably directed outward, so that in the forward action of the hounds they will always be actuated outwardly to effect the engagement of the brakes against the wheels. The levers are fulcrumed to the hounds at their elbows by means of strong fulcrum pins or bolts L, the fulcrum-bolts also being projected through a cross-piece M, which they hold in place, the said cross-piece serving to strengthen the hounds and the projecting ends thereof serving as supports to the outer end portions of the brake-arms of the elbow brake-levers.

The inner ends of the brake-levers have links D D pivotally connected thereto, the inner ends of the links being pivoted to a

sleeve E, movably arranged on the coupling-pole and held thereon in the required position by means of a pin K, passed through the sleeve and coupling-pole.

5 It may be desirable to prevent the action of the brakes and keep the rear carriage from pushing forward under circumstances, such as when the vehicle is being backed into or out of a barn-floor or when traveling on a
10 level road. To accomplish this, I detachably and adjustably arrange a collar I' on the coupling-pole and pass a pin 13 through it and the coupling-pole, or the pin 13 may be provided with an enlarged head, as seen in
15 Fig. 2 of the drawings, and serve the purpose. Through the axle are projected and secured two eyebolts 14 14 or other suitable bearing devices which will hold a rock-bar in place. In these bearings is journaled a rock-
20 bar F, lying parallel to the axle and formed or provided with a lateral lug or arm G, arranged at right angles to the rock-bar and having its free end disposed to engage behind the pin or collar, and thus hold the hind
25 carriage, when the engagement is effected, from moving forward on the coupling-pole. On the outer end of the rock-bar is secured a handle-bar or lever H, by which the bar is
30 engaged with the stop on the coupling-pole.

In order that the wagon-bed (not shown) can move forward with the hind carriage, it is rigidly secured to the hind bolster and to
35 the front bolster, and the front bolster is given a limited play or forward-sliding function. To accomplish this object, a bearing-plate 16 is secured to the under face of the front bolster 17, and in this bearing-plate is
40 formed a T-slot 18, and in the T-slot is arranged the head of the king-bolt 7, as indicated in Fig. 3 of the drawings, the king-bolt passing through the respective parts which are coupled to the other parts of the running-
45 gear. It will be readily perceived that by this construction of the bolster-plate and the connection to the king-bolt the front bolster can be moved forward by the movement of the wagon-bed and that the bed, with the hind
50 carriage, can return to normal position when the vehicle has passed down the declivity and the brakes released; also, that the front carriage is free to turn on the king-bolt.

The operation is as follows: When the vehicle moves down a declivity or incline, there
55 being no coupling-pin through the hounds they slide along on the coupling-pole until the hind wheels come in contact with the brake-shoes, when the weight of the load adjusts the pressure upon the brakes, and the vehicle, with the load, is let down the grade without much or any holdback effort on the part of the horses. When the vehicle has reached level ground, the hind carriage slides
60 back, carrying with it the wagon-bed, if there be one, and automatically assumes its normal position with the brakes released.

What I claim is—

1. The combination with the coupling-pole and hind wheels and axle provided with
70 hounds slidingly secured to the coupling-pole, of a brake mechanism including elbow brake-levers pivotally mounted at their elbows on the opposite limbs of the hounds, a sleeve rigidly but removably attached to the coupling-
75 pole in front of the said hounds and connecting-links between said sleeve and the inner arms of the elbow brake-levers, whereby when the hind carriage is moved forward the brakes are automatically applied to the hind wheels. 80

2. The combination with the coupling-pole and hind wheels and axle provided with hounds slidingly secured to the coupling-pole, of a brake mechanism comprising elbow
85 brake-levers pivotally mounted at their elbows on the opposite limbs of the hounds, a sleeve rigidly but detachably arranged on the coupling-pole in front of the said hounds, connecting-links between said sleeve and the inner
90 arms of the elbow brake-levers and a suitable connection between the axle and the coupling-pole to prevent the hind carriage from moving forward the sliding sleeve on the coupling-pole.

3. The combination with the coupling-pole, hind wheels and axle provided with hounds, of a sleeve uniting the forward end of the
95 hounds and slidingly arranged on the coupling-pole, elbow brake-levers fulcrumed at their elbows on the opposite limbs of the hounds, a sleeve on the coupling-pole in front of the hounds, fastening means to hold said
100 sleeve to a set position on the coupling-pole, links between said sleeve and the inner arms of the brake-levers, a stop on the coupling-pole to prevent the hounds from sliding backward beyond a determined point and means
105 on the axle and coupling-pole to stop the hind carriage from moving forward on the coupling-pole. 110

4. The combination with the coupling-pole, hind wheels and axle provided with hounds, of a sleeve uniting the forward end of the hounds and slidingly arranged on the coupling-pole, elbow brake-levers fulcrumed at
115 their elbows on the opposite limbs of the hounds, a sleeve on the coupling-pole in front of the hounds and adjustably secured thereto, an adjustable sleeve or pin to stop the backward movement of the hounds, a stop on the
120 coupling-pole adjacent to the hind axle, a bar supported and journaled to the brake, and provided with a lug to engage the said stop on the coupling-pole and prevent the forward movement of the hind carriage on the coupling-pole. 125

5. The combination with the brake mechanism arranged to be operated by a forward-sliding movement of the hind carriage of the vehicle, of a stop on the coupling-pole adjacent
130 to the front of the hind axle, bearings secured to the hind axle, a rocking bar journaled and secured in the bearings, and provided with a lug or arm to engage the stop on the coupling-

pole and a lever to rock the bar and throw the lug into and out of engagement with the stop on the coupling-pole.

5 6. The combination with the brake mechanism arranged to be operated by the forward-sliding movement of the hind carriage, of the front-bolster bearing-plate on the under face of the bolster formed with a transverse T-shaped slot, and a king-bolt having its head
10 disposed in the slot.

7. The combination with the coupling-pole, hind wheels, and axle provided with hounds slidingly secured to the coupling-pole, of a brake mechanism comprising elbow brake-le-

versfulcrumed at their elbows to the opposite 15 limbs of the hounds, a sleeve adjustably secured to the coupling-pole in advance of the hounds, links between the said sleeve and the elbow brake-levers, and a cross-piece secured to the hounds with its ends projecting to serve 20 as supports for the braking-arms of the elbow brake-levers.

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

JOHN GIBSON ROBINSON.

Witnesses:

ETHOL VANICE,
JAMES R. WALLACE.