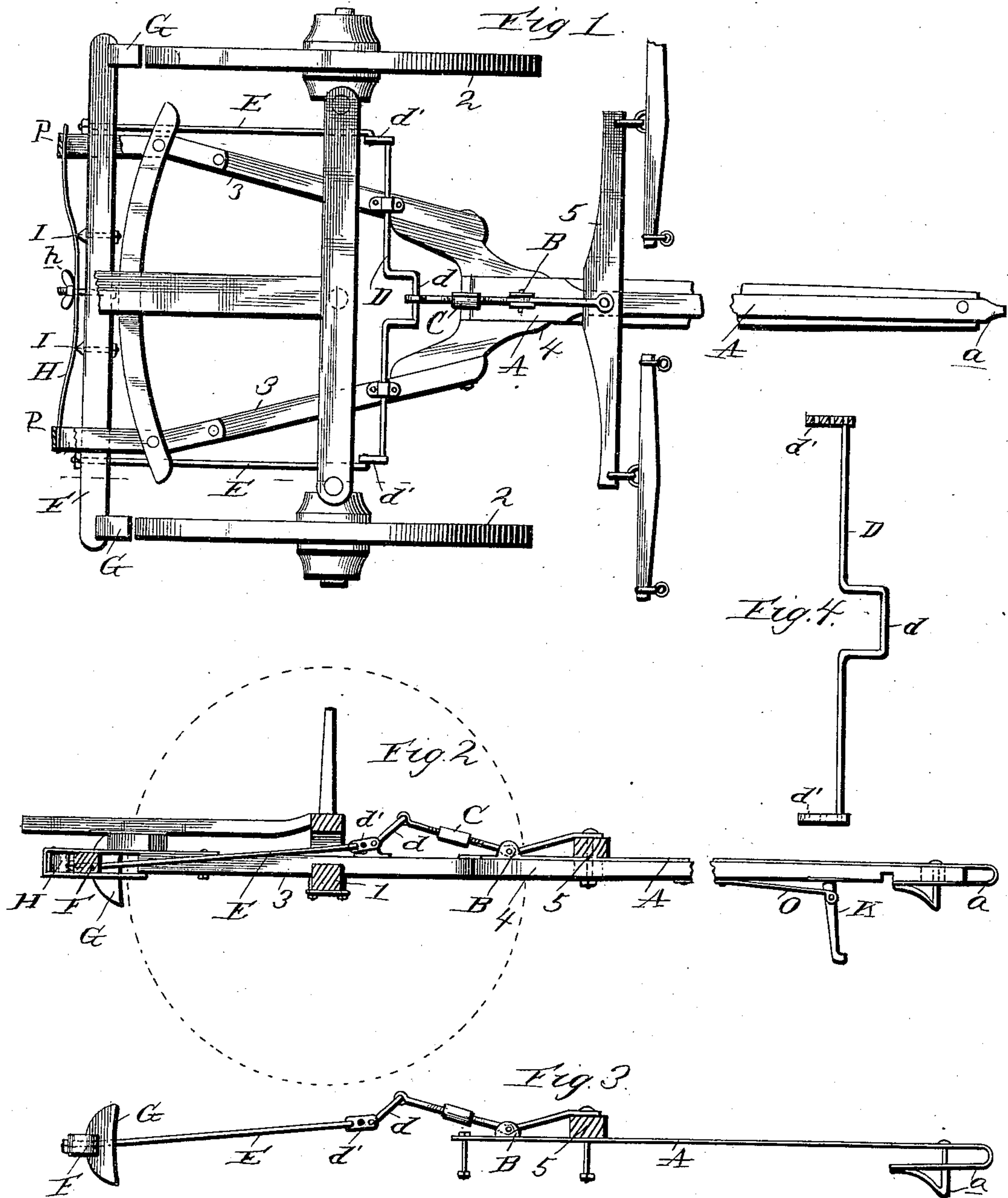


No Model.)

L. M. BRANDS.
WAGON BRAKE.

No. 426,759.

Patented Apr. 29, 1890.



Witnesses:
C. H. Prader
J. E. Robertson

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UNITED STATES PATENT OFFICE.

LAFAYETTE M. BRANDS, OF BELMONT, NEW YORK, ASSIGNOR OF ONE-HALF
TO ELDRIDGE N. BLACK, OF SAME PLACE.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 426,759, dated April 29, 1890.

Application filed January 7, 1890. Serial No. 336,151. (No model.)

To all whom it may concern:

Be it known that I, LAFAYETTE M. BRANDS, a citizen of the United States, residing at Belmont, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

This improvement relates to those brakes which are automatically put into action by the backing of the animals or when the forward motion of the vehicle tends to crowd the animals; and the invention consists in the peculiar construction, arrangement, and combinations of parts hereinafter described, and then definitely pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a plan of the fore part of a wagon or other vehicle with the bed removed; Fig. 2, a side view of the same, partly in section; Fig. 3, a similar view of the iron work detached; Fig. 4, a plan, on a larger scale, of a rock-shaft detached.

Referring now to the details of the drawings by letter, Fig. 1 represents the front axle; 2, the wheels; 3, the hounds; 4, the tongue, and 5 the doubletree, all of the ordinary or any suitable construction. Supported on the tongue is an iron A, the front end of which is bent under the forward end of the tongue and provided with a depending projection *a*, for a purpose hereinafter explained. The other end carries the doubletree 5 and the stay B, and is pivoted to one end of a connection C, whose other end is secured to a central crank *d* on the rock-shaft D, whose ends are provided with depending cranks *d'* *d''*. Pivotaly connected to each crank *d'* is a rod E, running back to and fast in a brake-bar F, having brake-shoes G G, which come in contact with the wheels when the brake is in operation. The brake F is held in guides P, attached to the rear of the hounds. At the back of the brake-bar is a spring H, bearing against blocks I, attached to the brake-bar, and whose ends bear against the rear ends of the guides P. In the center of the spring is a tension bolt and nut, by which the pressure of the spring can be increased or dimin-

ished, as desired, according to whether the weight of the load is little or much. At K is a pivoted dog or catch that in its normal position has no effect, but when swung forward catches on the turned-under end of the iron A, and thus prevents said iron A from sliding back and setting the brake. A spring O keeps the dog in either position, as desired.

The operation is as follows: Supposing the vehicle to be descending a hill and it begins to crowd on the horses, pressure will be exerted at *a* through the neck-yoke and the iron A will move backward over the tongue, thus pushing back the crank *d* and moving forward the cranks *d'* *d''*, which in their turn act upon the brake-bar and cause the latter to force the brake-shoe against the wheels, to which the spring H adds its force. Should it be desired to stop the vehicle suddenly, the horses are caused to "back," when the same effect is produced on the brake-bar, and thus the brake can be automatically brought into operation and the vehicle brought to a full stop, if desired. When it is desired to proceed, the forward motion of the horses will immediately take the pressure off of the brakes, as will be readily perceived. Should it be desired to back the vehicle, it will only be necessary to turn the dog K forward, as described, which will prevent the brake going into operation, and thus the vehicle may be "backed," as desired, notwithstanding the pressure at *a*, which usually sets the brake in operation. It will be seen that the cranks *d'* *d''* have several holes, into either of which the bolts of the rods E E may be screwed, and thus the motion of the brake-bar may be increased or diminished, as desired.

When the vehicle is heavily loaded, the spring can have great pressure, because the whole draft of the team forces the brake back from the wheels and will keep it back until the vehicle has a tendency to crowd upon the team, when the spring will immediately and automatically act, requiring but little effort on the part of the horses to hold the load. By the adjustment of the spring the pressure of the brakes can be accommodated to the weight of the load.

As a further means of adjustment the con-

necting-bar C is made in two parts united by a threaded sleeve *c*, by which said bar may be lengthened or shortened, which will carry the brake-bar farther forward or back, as desired.

From the above it will be seen that I have invented a very convenient automatic brake, which is simple, cheap, not likely to get out of order, and one that can be applied to almost any wagon or vehicle desired at a small expense.

What I claim as new is—

1. The combination, with the tongue of a vehicle, of the iron A, having its outer end turned under said tongue, a shaft D, having three cranks *d d' d''*, a connection C between the iron A and the crank *d*, rods E E, pivotally connected to the cranks *d' d''*, the brake-bar F, connected to the rods E E, and the guides P, supported by the hounds and carrying the brake-bar, substantially as described.

2. The combination, with the tongue of a vehicle, of the iron A, resting thereon and having its outer end turned undersaid tongue, a shaft D, having three cranks *d d' d''*, a connection C between the iron A and the crank *d*, rods E E, pivotally connected to the cranks

d' d'', the brake-bar F, firmly connected to the rods E E, the guides C, supported by the hounds and carrying the brake-bar, and the spring H, adjustably connected to the center of the block and bearing against the ends of the guides P, all substantially as shown and described.

3. The combination, with a vehicle, of the tongue 4, the iron A, having projection *a*, the spring O, the dog K, pivoted in the end of said spring, the cranked rock-shaft D, connected with the iron A, and the brake-bar connected to the crank, substantially as described.

4. The combination, in a vehicle, and the brake thereof, of the guides P, the brake-bar F, sliding therein, the spring H, attached to said bar, the blocks I on the brake-bar, and the tension bolt and nut *h*, whereby the power of the spring may be quickly regulated, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 3d day of January, 1890.

LAFAYETTE M. BRANDS.

Witnesses:

E. S. RICHARDSON,
E. N. BLACK.