C. R. RICE.

Vehicle Brake.

No. 201,893. Patented April 2, 1878.

Fig. 1.

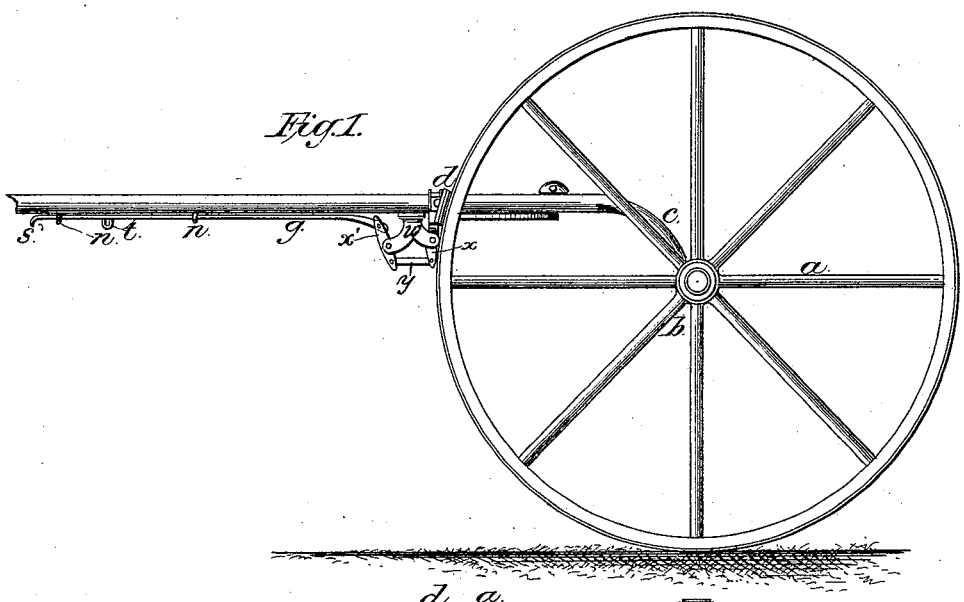


Fig. 2.

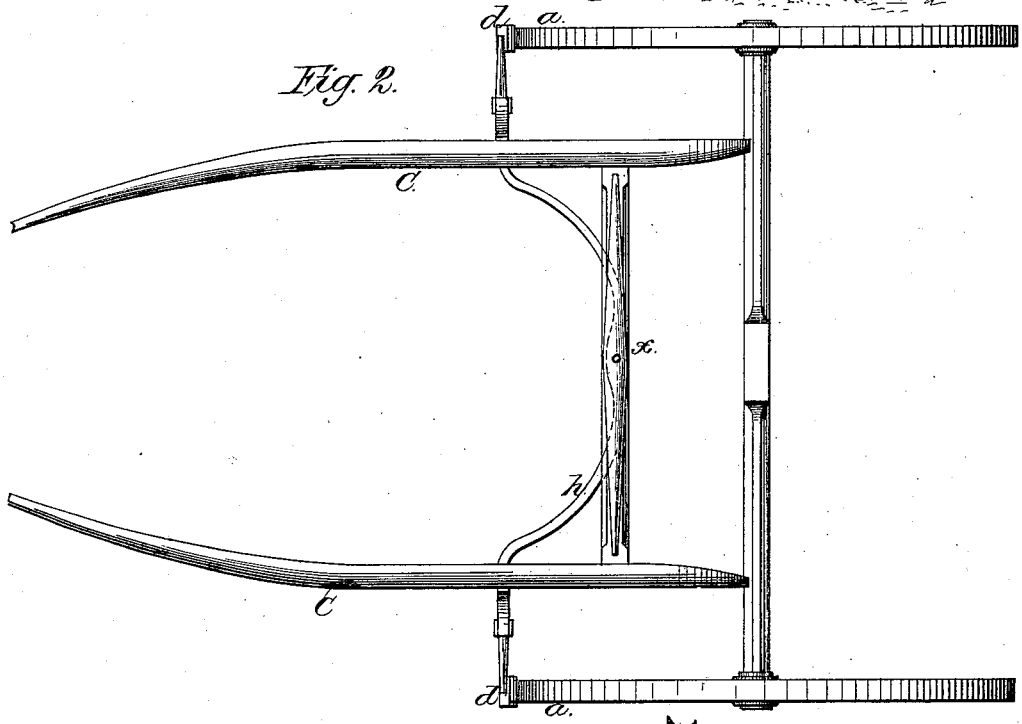
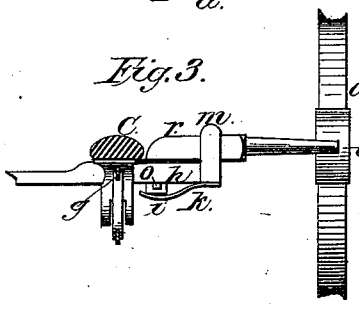


Fig. 3.



Witnesses:

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Inventor:

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By H. J. Choate

His Atty.

UNITED STATES PATENT OFFICE.

CHARLES R. RICE, OF SOMERVILLE, ASSIGNOR OF ONE-FOURTH HIS RIGHT TO WINFIELD S. CHOATE, OF AUGUSTA, MAINE.

IMPROVEMENT IN VEHICLE-BRAKES.

Specification forming part of Letters Patent No. **201,893**, dated April 2, 1878; application filed November 3, 1877.

To all whom it may concern:

Be it known that I, CHARLES R. RICE, of Somerville, in the county of Lincoln and State of Maine, have invented a new and useful Improvement in Brakes for Wagons and other Vehicles, which improvement is fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a side view of the forward part of a wagon with my invention attached. Fig. 2 shows the under side of the thills, and the manner of attaching the brake to the thills; and Fig. 3 shows the construction of the brake.

Like letters of reference indicate like parts.

In Fig. 1, *a* is the forward wheel of the wagon; *c*, the thills; *b*, the axle. *g* is a rod passing through the staples *n* upon the under side of the thill, and having the knob *s* upon the end, to limit the backward movement of the rod. *t* is a loop or its equivalent in the rod *g*, through which the holdback is passed. *d* is the pad of the brake, which is pressed against the wheel *a*. A lug or clasp attached to the under side of the thill holds up the brake, and allows it to move backward and forward.

If the power exerted upon the brake is not sufficient, it may be increased by putting upon the thill the part *w*, to which the short levers *x* and *x'*, connected by the short rod *y*, are attached. If this is done, the brake rests upon the top of the short lever *x*, which supplies the place of the clasp, and holds the brake or spring *h* in position.

Fig. 2 shows, in addition to Fig. 1, the rod *h*, to which the pads are attached. This rod is made to be hung upon the whiffletree-bolt X, and is made to spring forward and throw the pads off the wheel when the power is not applied to the rods *g g*. The rod *h* is bent, as shown, to clear the horse.

Fig. 3 shows the construction of the brake. C is the thill cut off. *g* is the end of the rod, which passes back along the thill, and connected to the rod *h* in any convenient manner. *h* is the spring-rod, upon the end of which is the upright clasp or guide *m*, which holds the arms to which the pads are attached and prevents the lateral motion thereof, but allows it to move up, as hereinafter described. The pad *d* is connected to the arm *r* in the ordinary manner. This arm *r* is made as indicated, and passes down through the rod *h*, and is held in place by the bolt or rivot *o*. To the under side of the rod *h*, at *k*, the spring *i* is attached. This spring operates upon the lower end of the arm *r* and prevents its rattling, and brings the pad *d* down to its position after it has been thrown up.

The brake operates as follows: When the wagon presses forward it, of course, draws up the holdback, the holdback passing through the loop in the rod *g*. It is obvious that the power will be exerted to draw back the rod *g* and apply the brake to the wheel. When this force is removed, the spring-rod *h* throws the brake forward and releases the wheel. The force exerted upon the brake increases as the force with which the wagon presses forward increases. It will be seen from this that the brake is applied at the proper time and with the requisite amount of force. It thus regulates itself, and no useless power is applied to the brake. The extent of the backward movement of the rod *g* is controlled by the knob *s* thereon. If any accident happen to the brake the knob *s* strikes the staple *n* in the thill; this holds the rod, and the wagon is controlled in the ordinary manner. The object of the pad *d* and arm *r* being connected, as shown, to the rod *h* is to allow the pad to move upward when the wagon is backed.

It will be seen that when the wagon is backed by the holdback the tendency would be to apply the brake. This is obviated by having the arm *r* hung at *o*, so that when the wheel is turned backward the pad *d* and arm *r* are thrown up and the wheel turns freely. When the force is removed from the rod *g* the spring-rod *h* operates to throw the brake forward, and the spring *i* brings the pad *d* and arm *r* down to their proper positions, the guide *m* preventing any displacement of the arm.

It is obvious that the power exerted by the holdback in holding back the wagon may be applied to the brake, either as described or by having the holdback connected to a strap, and the strap passed over a pulley, or its equivalent, and back along the thill, and connected to the brake by levers or pulley.

The use of the arm *r*, hinged as described, may also be dispensed with by having the pad so arranged upon the end of the rod *h* as to

be thrown up when the wheel is turned backward, and to drop into place and engage the wheel when it turns forward.

My invention relates particularly to the manner of applying the brake in single teams, and to the novel construction of the brake, by which the same is disengaged when the wagon is backed; also, the place and mode of connecting the brake, allowing it to be connected to wagons already in use, and requiring no particular construction of wagon in order to apply the brake. If the pressure exerted by holding back the wagon is not sufficient when the rod acts directly on the brake, it may be increased by a combination of levers or any other suitable device.

I claim as my invention—

1. The combination, in a wagon-brake, of the arm *r*, with the pad *d* thereon, and the spring-rod *h*, with the guide *m* and spring *i* thereon, as set forth and specified.

2. A wagon-brake composed of the rod *g*, with the loop *t* therein and knob *s* thereon, in combination with the spring-rod *h*, having the arm *r* and pad *d* and spring *i* thereon, all constructed, applied, and operated substantially as described, and for the purposes set forth.

3. A brake for wagons and other vehicles, consisting of the spring-rod *h*, arm *r*, and pad *d*, in combination with the rod *g*, with loop *t* and knob *s* thereon, as described and set forth, and operating with the levers *x* and *x'* to increase the pressure on the wheel, as fully described and specified.

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Witnesses:

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