

J. WILKINSON.

2 Sheets—Sheet 1.

Carriage-Brake.

No. { 43. }
 { 31,047. }

Patented Jan 1, 1861.

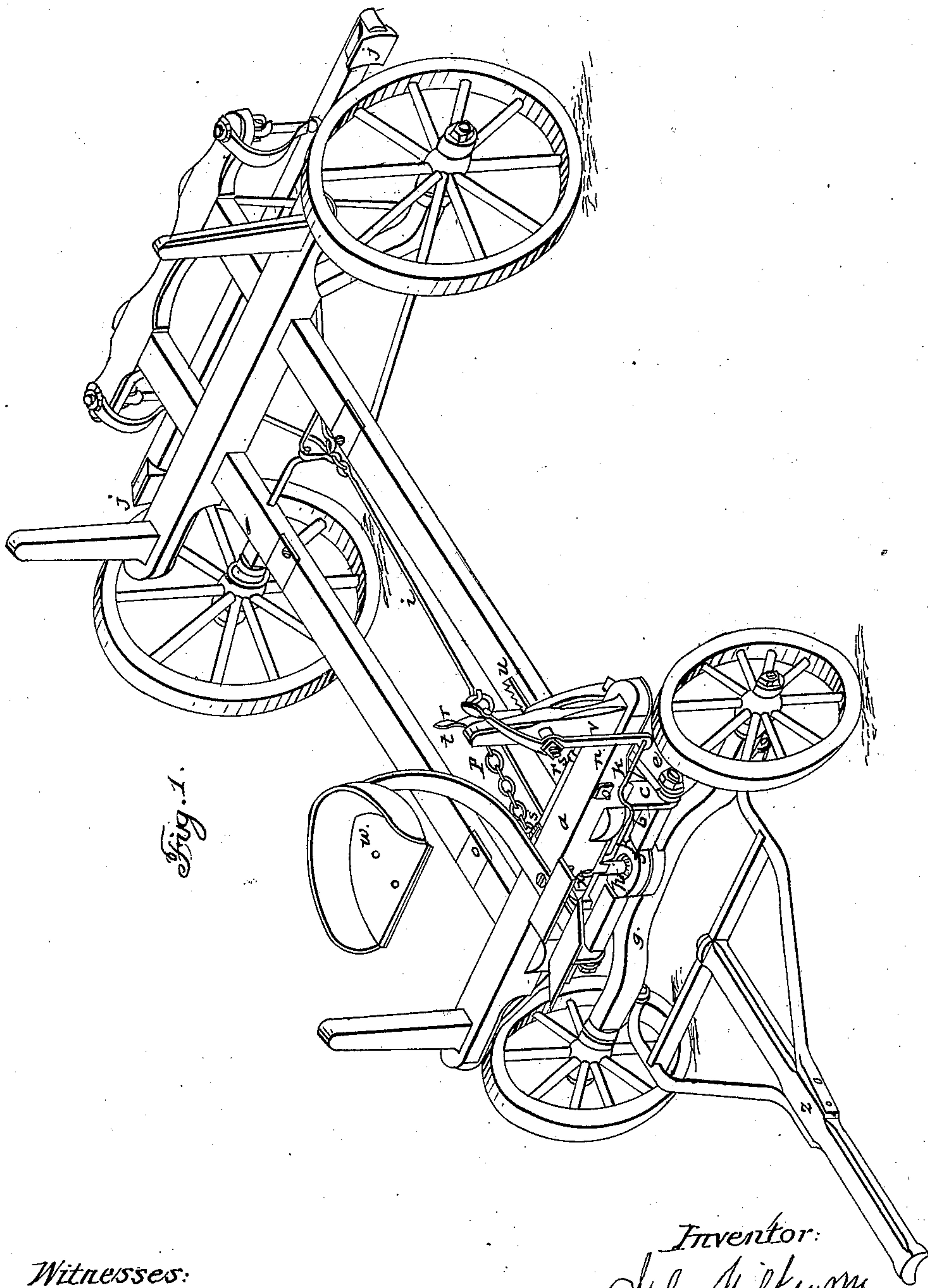


Fig. 1.

Witnesses:

J. Barr
Wm. H. Harrison

Inventor:

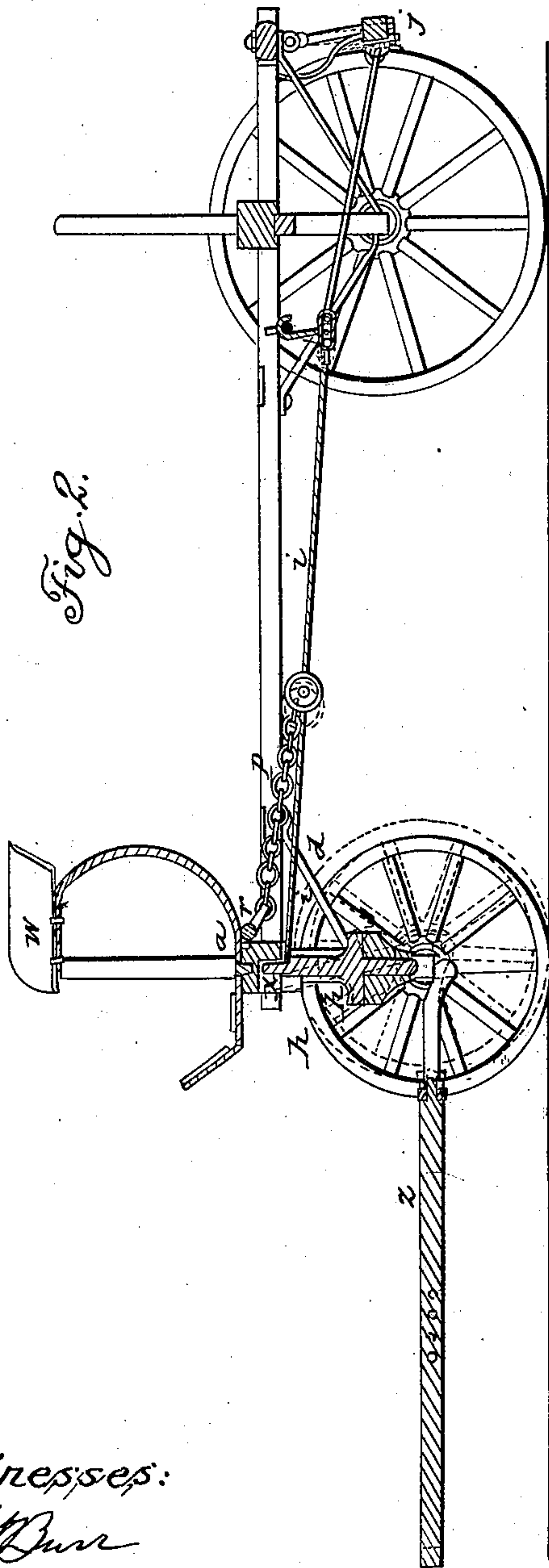
John Wilkinson
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Witnesses:

J. Buss
Wm. H. Harrison

Inventor:
John Wilkerson
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UNITED STATES PATENT OFFICE.

JOHN WILKINSON, OF BALTIMORE, MARYLAND.

AUTOMATIC BRAKE.

Specification of Letters Patent No. 31,047, dated January 1, 1861.

To all whom it may concern:

Be it known that I, JOHN WILKINSON, of Baltimore, in the State of Maryland, have invented an Automatic Brake for Carriages; and the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawing, of which—

Figure 1 is a perspective view of the carriage body and brake. Fig. 2 a longitudinal middle section of the same.

My invention is an automatic brake for carriages described and represented as follows:

Many attempts have hitherto been essayed to make an automatic brake for carriages, that is to say a brake which once started into action shall continue independently of the driver to operate with varying degrees of force according to the necessities of the case. It is obvious that all brakes which are operated through the pole of the carriage are not strictly speaking automatic for they are indirectly operated by the driver and are subject to the caprices of the horses. In my invention the brake is applied by the relative position of the front and hind wheels, that is, whenever the carriage is on a descending grade, or the hind wheels are higher than the front ones, the brake is instantly applied by the rocking of the front axle. After the brake is in action it operates itself and to an extent commensurate with the necessities of the case and in such manner that the greater the weight or pressure of the carriage in descending a hill the greater the pressure on the brakes, and will operate upon the carriage as well without as with horses. The pressure of the brakes is effected by the vibration or rocking of the axle in the following manner. From the main bolster *a* there is suspended a subbolster *b* by means of the drop cheeks *c* which are firmly fixed to bolster *a*, these cheeks being suitably braced by rods *d* and *e*. The subbolster rocks or vibrates upon suitable bearings in the cheek posts *c*. The middle of the subbolster is enlarged in a circular form *f* to make the fifth wheel bearing for the axle *g*. Arising from the center of *f* is a stout pillar *h* and to the upper part of this pillar is attached the brake rod *i* which operates the brakes *j*. The upper part of this pillar enters a recess

z, in the bolster *a* and is kept steadily in an upright position by the back wall of this recess, in the bottom and front of the front bolster *a*; and by the draft of the team, which will at all times when the front of the carriage is the highest, take the brake from the wheels by keeping the pillar *h* in a perpendicular position.

When the vehicle is to be backed by the team the bolt *k* is to be pushed by the driver in front of the pillar *h* which prevents the action of the brake. This bolt *k* is supported by two lug pieces *m* attached to the bolster *a* and plays back and forth under the action of the lever *n* with which it is connected. The pillar *h* may be considered as a prolongation of the king bolt of the carriage or that bolt which holds the axle to the bolster not necessarily shown here.

From the foregoing description it will be seen that if the bolt *k*, is withdrawn from before the pillar *h* while the carriage is descending a hill the forward pressure will cause the sub-bolster to rock on its bearings and with it the axle *g* and the pillar *h* being thus thrown forward will draw upon the brake rod *i*, and the heavier the load or the greater the inclination of the road the greater will be the pull exerted upon the brake rod and thus we have what may strictly be termed an automatic brake.

As an auxiliary brake I connect with the brake rod *i* a chain *p* which is attached to the hand-brake rod *r* which is made to rock on suitable bearings *s* connected with the bolster *a*, by the movements of hand lever *t* attached to the outer end of this rod; this lever being held in position by the usual means of a notched bar *u* which is attached to post *v*. This post serves also for the bearings of the lever *n* which operates to call into action the automatic brake, both levers being accessible to the driver from the seat *w*.

The auxiliary brake can be operated in conjunction with the automatic brake or independently at pleasure and it is obvious that the automatic brake is relieved from action as soon as the draft of the horses is felt upon the tongue *z* causing the axle to rock backward and bring the pillar *h* into a vertical position, when the bolt *k* may be returned to its place. The red lines in Fig. 2 indicate the position of the parts while the automatic brake is in action.

The same principle of using the rocking

motion of the axle may be applied to the rear axle without changing the character of my invention.

I do not claim operating the brake by the weight of the load, except when the same is done by the vibratory or rocking motion of the axle as above set forth; therefore

What I claim as my improvement is—

Operating carriage brakes by the vibra-

tion or rocking of the axle substantially in the manner and upon the principles herein set forth; and for this purpose I claim the sub-bolster *b* and its pillar *h* combined with the main bolster *a* as set forth.

JOHN WILKINSON.

Witnesses:

CHAS. G. PAGE,

WM. H. HARRISON.