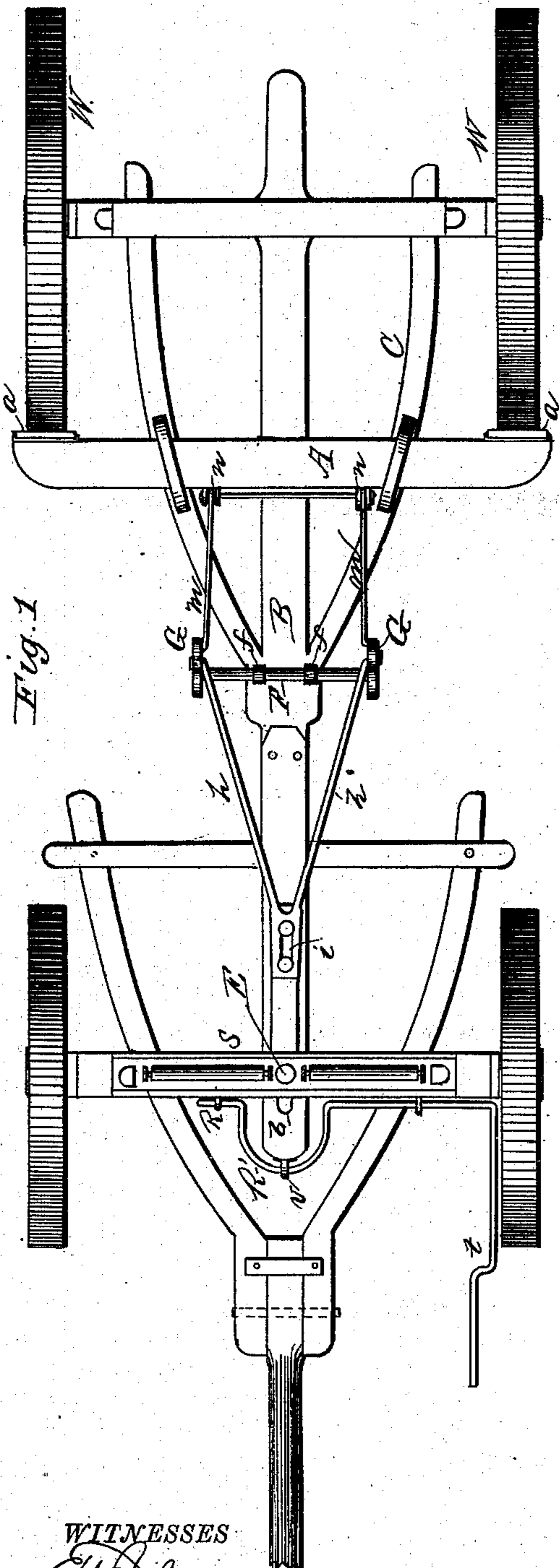


(No Model.)

D. S. LANE.
WAGON BRAKE.

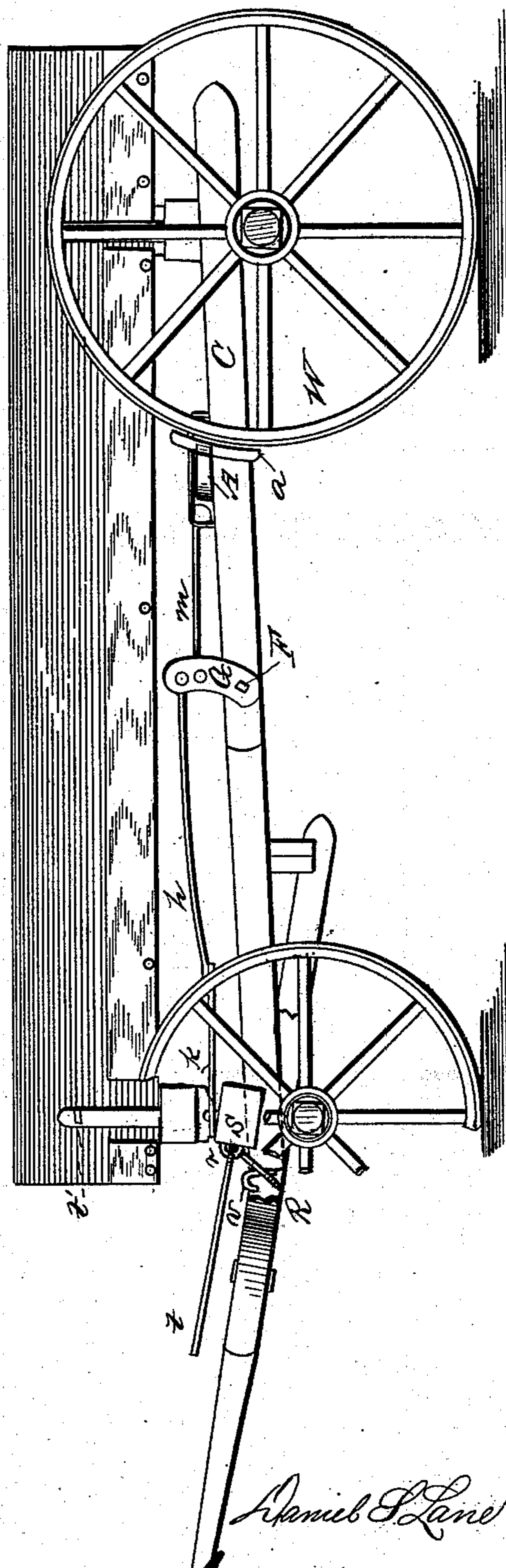
No. 288,456.

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WITNESSES
A. W. Johnson
H. H. Taylor

Fig. 2.



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[Signature]
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UNITED STATES PATENT OFFICE.

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WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 288,456, dated November 13, 1883.

Application filed March 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, DANIEL S. LANE, a citizen of the United States of America, residing at Hooversville, in the county of Somerset and State of Pennsylvania, have invented certain new and useful Improvements in Wagon-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to automatic wagon-brakes, such as are set by the forward lurching of the rear portion of the running-gear, its object being to furnish a brake which will be automatically set on descending grades, to prevent the wagon from running forward upon the animals, and relieved as soon as the level is reached or an ascending grade commenced, and which may be also readily locked off to permit the wagon to be backed.

The invention consists in certain novel constructions and combinations of parts, which will be hereinafter particularly described, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of the running-gear of a wagon provided with my improved brake; and Fig. 2 is a side elevation of the same with one of the front wheels partly broken away.

The main portions of the running-gear are constructed in substantially the ordinary manner, except as hereinafter specified.

The letter A indicates the brake-bar, which is supported by the coupling-pole B and rear hounds, C, and carries at its ends the brake-shoes *a*, arranged to act upon the peripheries of the hind wheels, W W. The forward end of the coupling-pole passes between the front axle and the sand-board S, in the usual manner, and has an elongated slot, *b*, through which passes the king-bolt E, so that said front end of the coupling-pole may play forward and rearward between the sand-board and the axle. At about the middle of the coupling-pole, or at the junction therewith of the hind hounds, is mounted a transverse shaft, F, secured in suitable bearings, *f*, and having the lever-arm G projecting upward from its opposite ends

and firmly secured thereto. From the upper ends of these lever-arms two pivoted rods, *h*, extend forward and are connected to a slotted plate, *i*, which is connected to the rear end of a bar, *k*, by means of a bolt which passes through said bar and the slot of the plate *i*. The forward end of the bar *k* enters between the sand-board and the front axle, and is provided with a hole for the passage of the king-bolt.

To intermediate portions of the lever-arms G are pivoted rods *m*, which extend rearward, and have their rear ends pivoted to eyes *n*, which project from the front edge of the brake-bar A.

To the front edge of the sand-board S is attached a rocking rod, R, supported in staples *r*, and bent outward from the center of the sand-board to form a loop or yoke, R'.

To the outer end of the rod R is secured a vertically-projecting handle, *t*, which may be normally held in position by a spring-clip, *t'*, attached to one of the front standards.

To the front end of the coupling-pole is secured a hook, *v*, and by operating the rod *t* the yoke or loop R' may be thrown down to engage with this hook or raised out of the path of the coupling-pole.

The operation of my improved brake as now described is as follows: When a wagon is traveling on a level or ascending grade, the coupling-pole slips rearwardly until the front wall of its slot bears on the king-bolt. The bar *k*, however, is not slotted, and therefore does not slip rearwardly, and thus, as the coupling-pole carries the shaft F and the lower ends of the lever-arms G rearwardly, the upper ends of said arms will be drawn forward by the rods *h* and bar *k*, and, as a consequence, the rods *m* are caused to draw the brake-bar forward and remove the brake-shoes from the wheels, so that they are allowed to run freely. When, now, the wagon begins to travel on a descending grade, the coupling-pole and its connected rear running-gear are thrown forward by gravity, and the rear wall of the slot in the coupling-pole will bear against the king-bolt. As, now, the shaft F and the lower ends of the lever-arms G are carried forward, the upper ends of said lever-arms will be thrown rearward by the rods *h* to the position shown in dotted lines, Fig. 2, and the rods *m* are caused to drive the brake-bar rearwardly and press

the brake-shoes against the wheels, as also shown in dotted lines. Of course, as soon as the level is reached or an ascending grade commenced and the rear running-gear lags, the wheels will be relieved of the brakes by the operation of the parts, as hereinbefore described.

It will be observed that by adjusting the plate *i* forwardly or rearwardly upon the bar *k* the throw of the brake-bar may be varied, to cause the brakes to press either heavily or lightly upon the wheels, as desired.

When it is desired to back the wagon, the yoke or loop *R'* must be thrown downward to engage the hook on the front end of the coupling-pole, so as to prevent said pole from sliding forward and operating the parts to set the brakes. When the wagon has been backed sufficiently, the horses may be caused to move forward slightly, and the yoke may then be disengaged from the hook, so that the king-bolt will receive the draft of the coupling-pole.

Having now fully described my invention, and explained the operation thereof, I claim—

1. In combination with an automatic wagon-brake, a coupling-pole provided at its forward end with a hook adapted to engage with a pivoted loop attached to the sand-board, and provided with an operating-lever, and a catch for

said lever, substantially as shown, and for the purpose set forth.

2. In combination with the slotted coupling-pole provided at its forward end with a hook, *v*, the yoke *R'*, pivotally attached to the sand-board *S*, and provided with a lever, *t*, the bar *k*, having slotted end *i* and diverging arms *h*, attached to a rocking lever, and rods *m*, secured to the brake-bar, the parts being organized substantially as shown and described.

3. In combination with the slotted coupling-bar *B*, provided at its forward end with a hook, *v*, the brake-bar *A*, supported within bails upon the coupling-pole and rear hounds, pivoted connecting-rods *m*, transverse rocking bar *F*, with end arms, *G*, bars *h h*, united at their forward ends and provided with a slot, *i*, and rod *k*, attached to the sand-board *S*, said sand-board being provided with a pivoted loop, *R'*, with operating-lever *t*, and means for holding said lever attached to the wagon-body, the parts being organized and arranged substantially as shown and described.

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

DANIEL S. LANE.

Witnesses:

PERRY J. BLOUGH,
RUFUS CRISSEY.