

No. 696,170.

Patented Mar. 25, 1902.

C. H. GUNN.
WAGON BRAKE.

(Application filed Dec. 20, 1901.)

(No Model.)

Fig. 1.

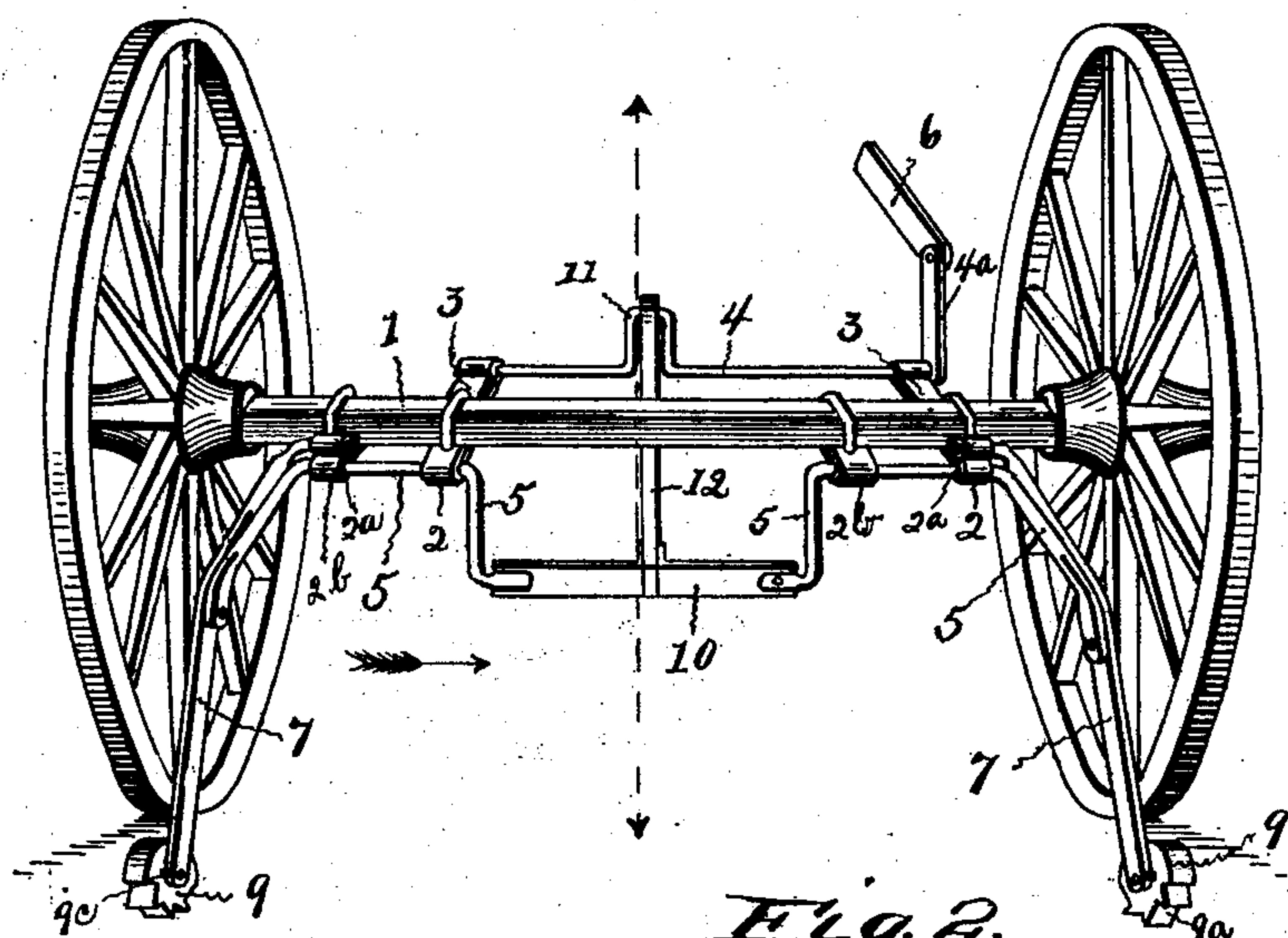


Fig. 2.

Fig. 3.

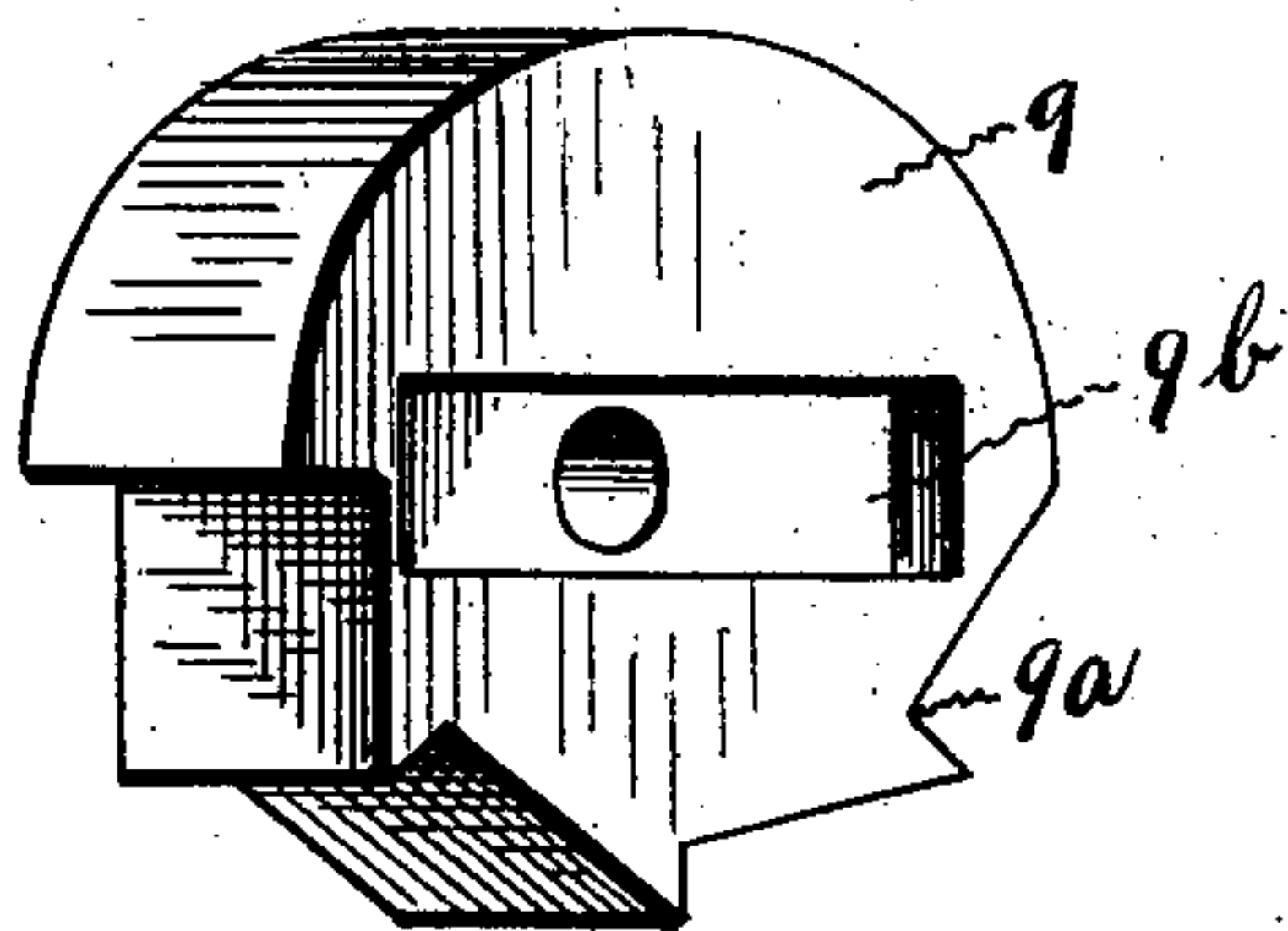


Fig. 4.

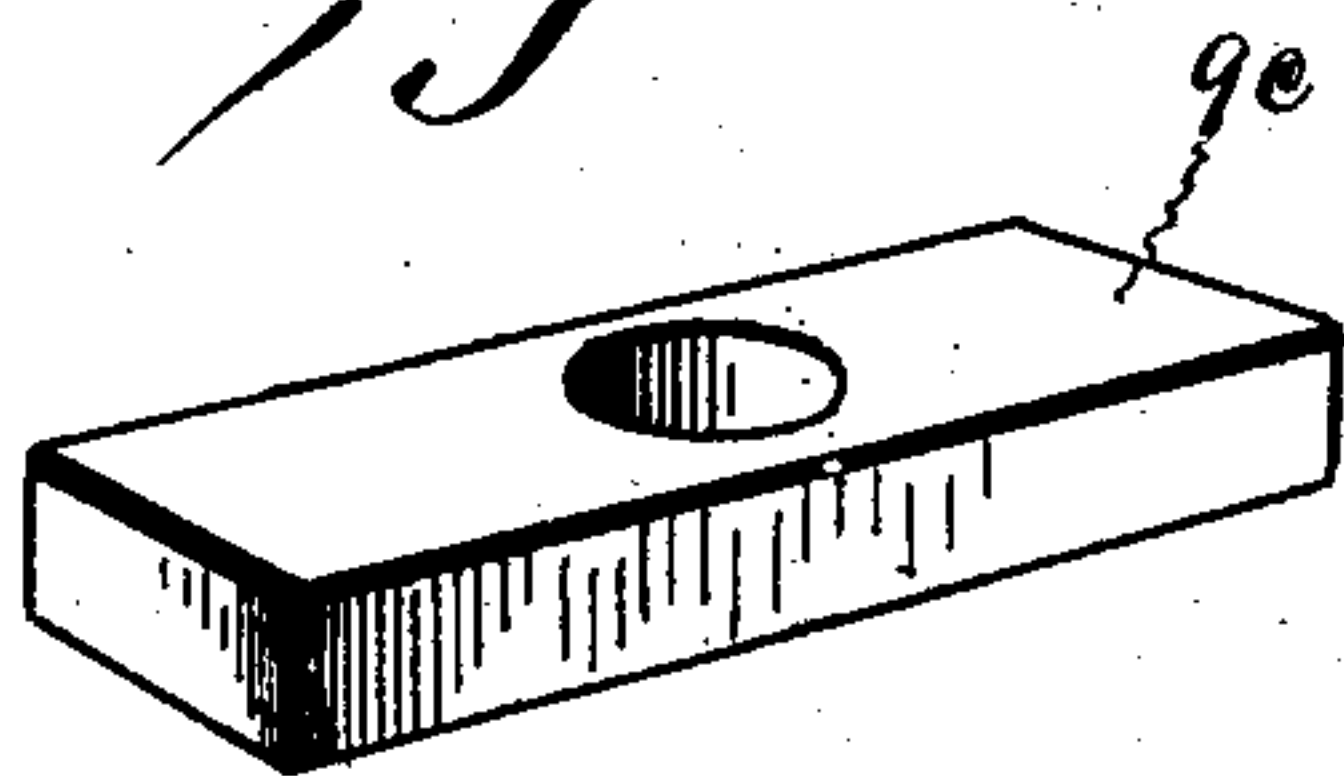
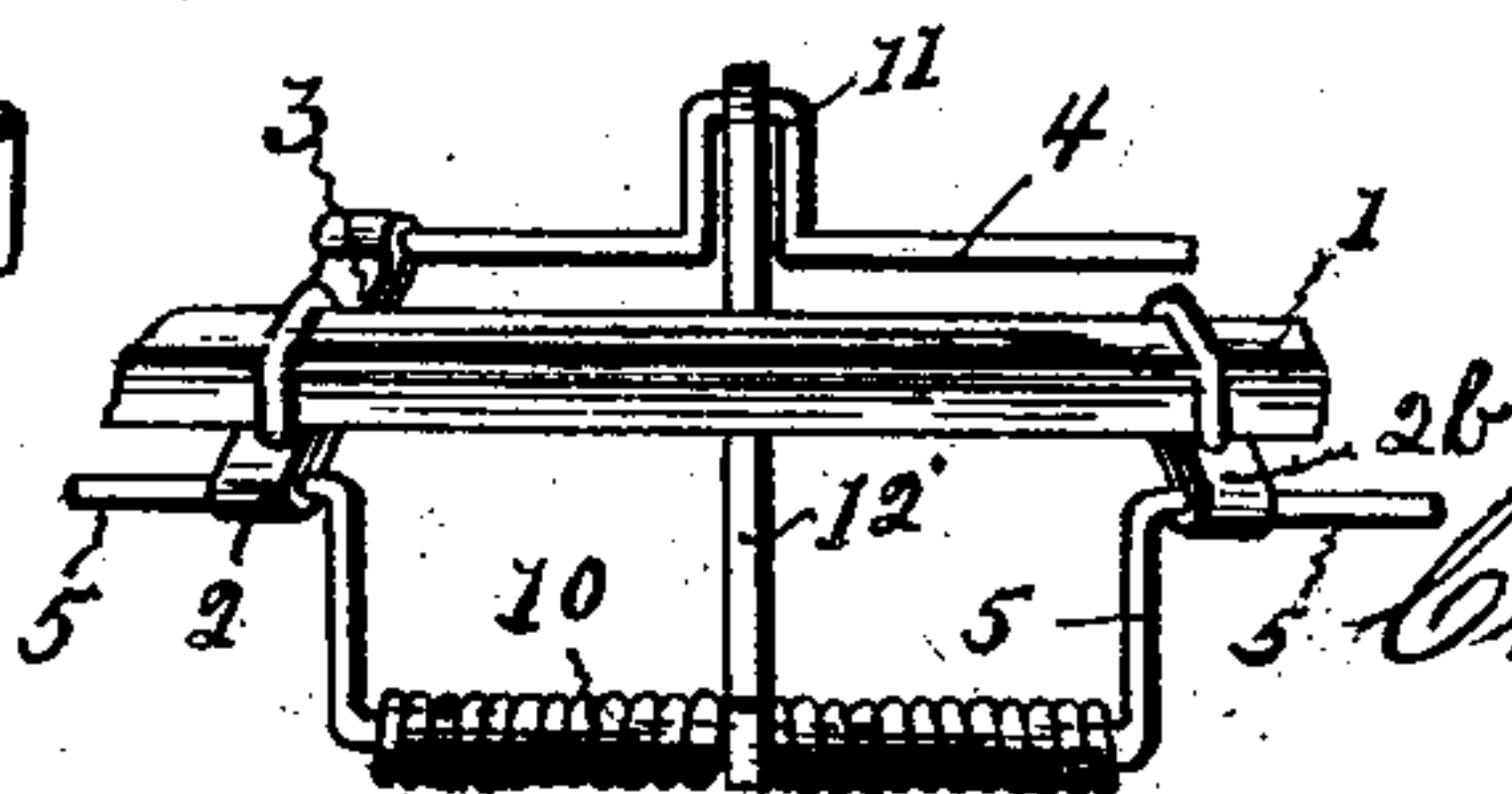


Fig. 5.



Witnesses

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WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 696,170, dated March 25, 1902.

Application filed December 20, 1901. Serial No. 86,703. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. GUNN, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Wagon-Brakes; and I do 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 the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in wagon-brakes of that type which when applied contact with the ground and lift the wheels therefrom; and its object is to provide means to prevent the entire brake from becoming accidentally released by one of the brake-shoes engaging an obstruction in the road.

Another object is to provide a reversible brake-shoe which is adapted for use in different seasons of the year.

Heretofore brakes of this character have been constructed with rigid connections between the hand-lever and the shoes, so that when either of the latter engage a rock or other obstruction in the road both shoes would be raised and the braking action entirely released, which occasioned much annoyance, especially when descending steep hills. To obviate this, I have connected the swinging shaft of each brake-shoe with a springing device capable of torsional movement and connect an operating-bar to its center, so that each brake-shoe will in a measure act independently of each other, and thus should one shoe be accidentally lifted the other will not be affected and will remain in contact with the ground.

My improved reversible brake-shoe consists of a roller having a series of teeth or serrations formed on a portion of its face for use in winter weather when the roads are covered with snow and ice, and it is provided with an improved construction by which it may be held in its reversed position.

For a further understanding of the merits

and advantages of my invention reference is to be had to the following description and the accompanying drawings, forming a part of this specification.

Figure 1 is a perspective view of the brake applied to the rear axle of a vehicle, the brake being in operative position. Fig. 2 is a vertical section through the rear of the running-gear of the vehicle with the brake applied and shown as out of engagement with the ground. Fig. 3 is a perspective view of the brake-shoe detached. Fig. 4 is a detail view of the locking-key. Fig. 5 is a modified form of connecting-rod for the springing device, which connects the swinging shaft of each brake-shoe.

Like numerals of reference indicate corresponding parts throughout the several views.

I prefer to mount my brake upon the rear axle of a vehicle, as shown in Fig. 1, and to carry this into effect the axle is provided with bearing-eyes suitably fastened thereto, in which the several levers and shafts are journaled, as will be more fully described hereinafter.

Secured near each end of the axle and extending forwardly of the same are bars 3, each of which is composed of a flat strip of metal doubled upon itself and provided with eyes at each end, which form bearings. A rocking shaft 4 is journaled in the eyes at the forward ends of the bars 3, and to the end of the rocking shaft is secured a vertical lever 4^a, which communicates with the hand-lever near the front of the vehicle by a bar 6 or any other suitable means. The eyes 2 at the rear end of the bars 3 form bearings for the swinging shafts 5, which are secured at one end to the brake-levers 7. The ends of the brake-levers are bent at right angles and journaled in the eyes of the clips 2^a, and their other ends carry reversible brake-shoes 9, which are adapted to contact with the ground and which will be more fully described hereinafter. A series of clips 2^b may be attached to the axle to support the swinging shafts 5, or any other suitable bearing may be employed. The ends of the swinging shafts are bent at right angles and connected by a

springing device 10, which consists, in Fig. 1, of a flat metal spring-bar capable of torsional movement.

About the center of the rocking shaft 4 the same is bent to form a crank portion 11, which is connected with the springing device 10 by means of a connecting-rod 12. In Fig. 5 I have shown this springing device as composed of two coil-springs, and the connecting-rod 12 is attached to the ends of each spring, while the ends of the swinging shafts extend a slight distance within the coil-springs. In this way each swinging shaft 5 will, in a measure, act independently of the other when one is displaced from the ground by reason of contact with an obstruction. The springing device is, however, of sufficient rigidity to operate both simultaneously when it is desired to either apply or release the brake, since the connecting-rod 12 is secured to it at its center, and each end is therefore capable of a springing action without affecting the position of the connecting-rod 12, the rocking shaft 4, or the other parts. Either form of springing device may be employed; but I prefer to use that shown in Fig. 1, as it is less expensive.

My improved brake-shoe consists of a cylindrical block provided with teeth or serrations on a portion of its periphery 9^a and a recess 9^b, which is adapted to receive a locking-key 9^c. The end of each brake-lever 7 is provided with a corresponding recess in alignment with the recess 9^b, and when the shoe is secured to the brake-lever by means of a bolt which passes through both the shoe and the locking-key each half of the locking-key engages the recesses in the shoe and brake-levers. In Fig. 1 the brake-shoes are shown as having the serrated face in use, which is more particularly adapted for winter weather, when the ground is covered with snow and ice; but by releasing the bolt the shoe may be reversed, so that the smooth edge will act as the contact-face, and the locking-key will prevent the shoe from turning.

The operation of the brake is as follows: When the lever 4^a is pulled forward by the driver, the rock-shaft 4, with its crank portion 11, is thrown forwardly and the connecting-rod 12 draws the swinging device 10 downwardly, and since each of the ends of the swinging shafts are connected with the ends of the springing device they will be likewise swung downwardly and throw the brake-shoes in contact with the earth. Now should either of the shoes strike a rock or other obstruction it will of course be lifted; but the other shoe will not be affected and will remain in contact with the ground, as each end of the springing de-

vice is capable of movement independent of the other end. The reverse operation will release the brake.

Having thus described my invention, what I claim is—

1. A vehicle-brake consisting of brake-shoes adapted for engagement with the ground, brake-levers supporting said shoes, swinging shafts connected to the brake-levers, a springing device connecting the swinging shafts and means connecting with the springing device for operating the brake, substantially as described.

2. A vehicle-brake consisting of brake-shoes adapted for engagement with the ground, brake-levers pivotally mounted upon the rear axle of the vehicle, rocking shafts connected to the brake-levers, and mounted on the rear axle of the vehicle, a rock-shaft, a connecting-rod between the rock-shaft and the swinging shafts and a springing device connecting the ends of the swinging shafts and secured to the connecting-rod to allow each swinging shaft to move independently of the other.

3. In a vehicle-brake, the combination with brake-shoes adapted for engagement with the ground, brake-levers pivotally supported on the rear axle of the vehicle, swinging shafts connected with the brake-levers, of a springing bar connecting the ends of the swinging shafts and capable of torsional movement to adapt the brake-levers to act independently of each other, a rock-shaft, a rod connecting the rock-shaft with the springing device and means for operating the rock-shaft, substantially as specified.

4. A vehicle-brake consisting of brake-levers having reversible brake-shoes mounted on their ends, swinging shafts connected with the brake-levers, a springing device connecting the ends of the swinging shafts, a rock-shaft, a connection between the rock-shaft and the swinging device and operating means, substantially as specified.

5. In a vehicle-brake the combination with the brake-levers and their operating means, of reversible brake-shoes adapted for engagement with the ground and each having a portion of its periphery provided with teeth and a recess formed in the side thereof, and a locking-key to engage said recess to hold the shoe in its reversed position, substantially as described.

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

CHARLES H. GUNN.

Witnesses:

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NELLIE MULHALL.