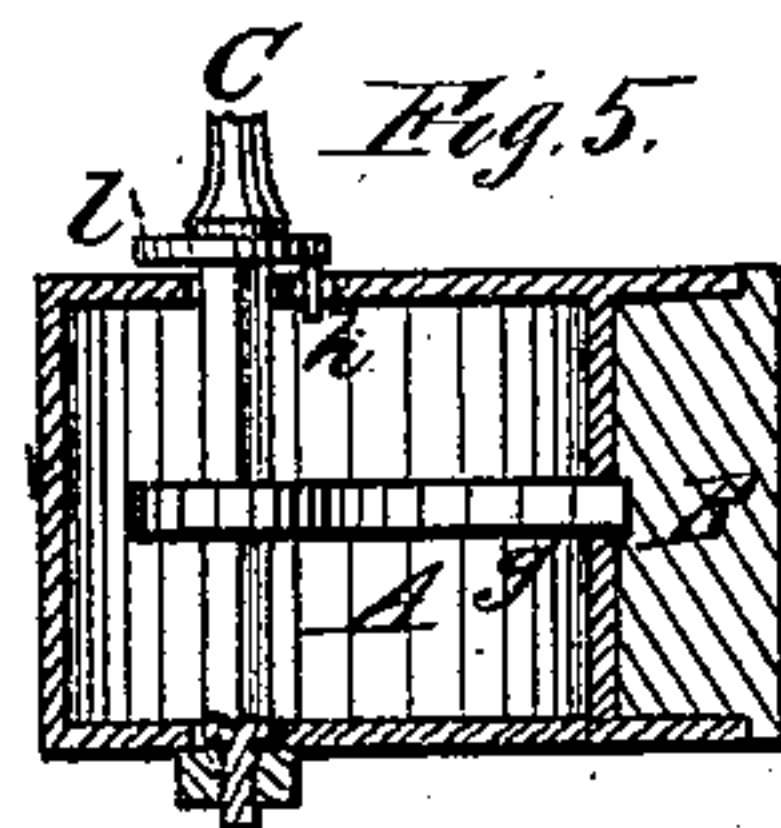
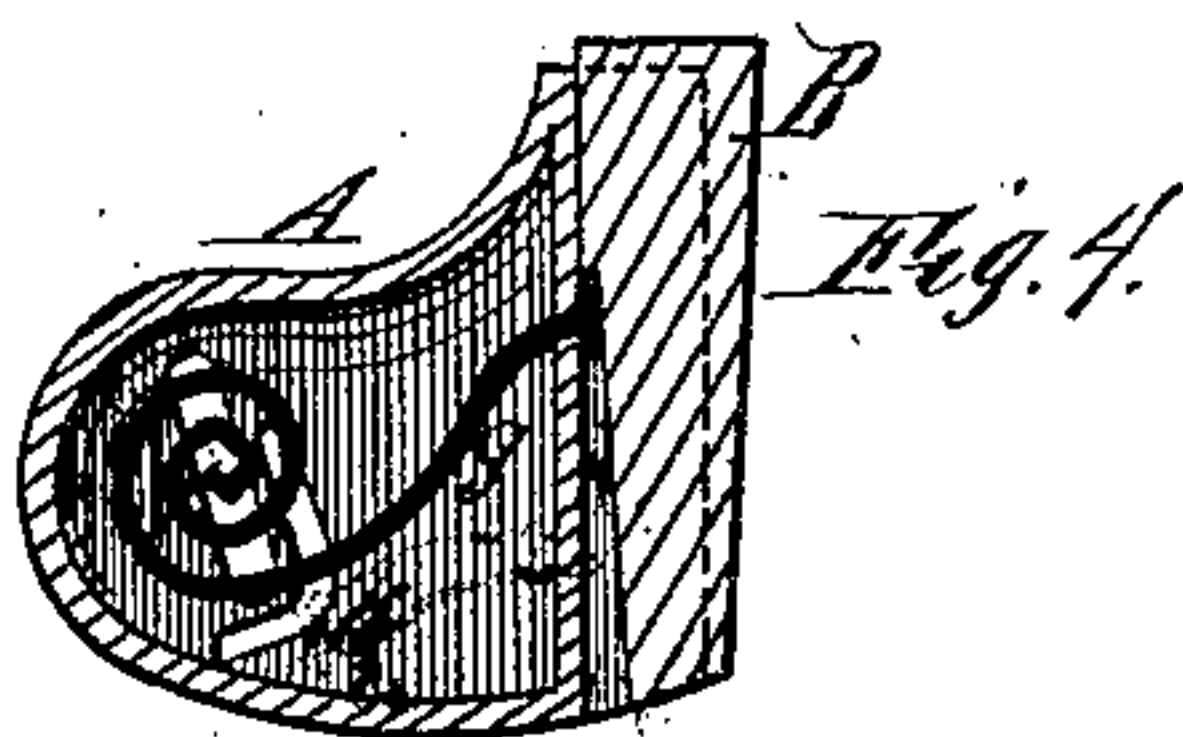
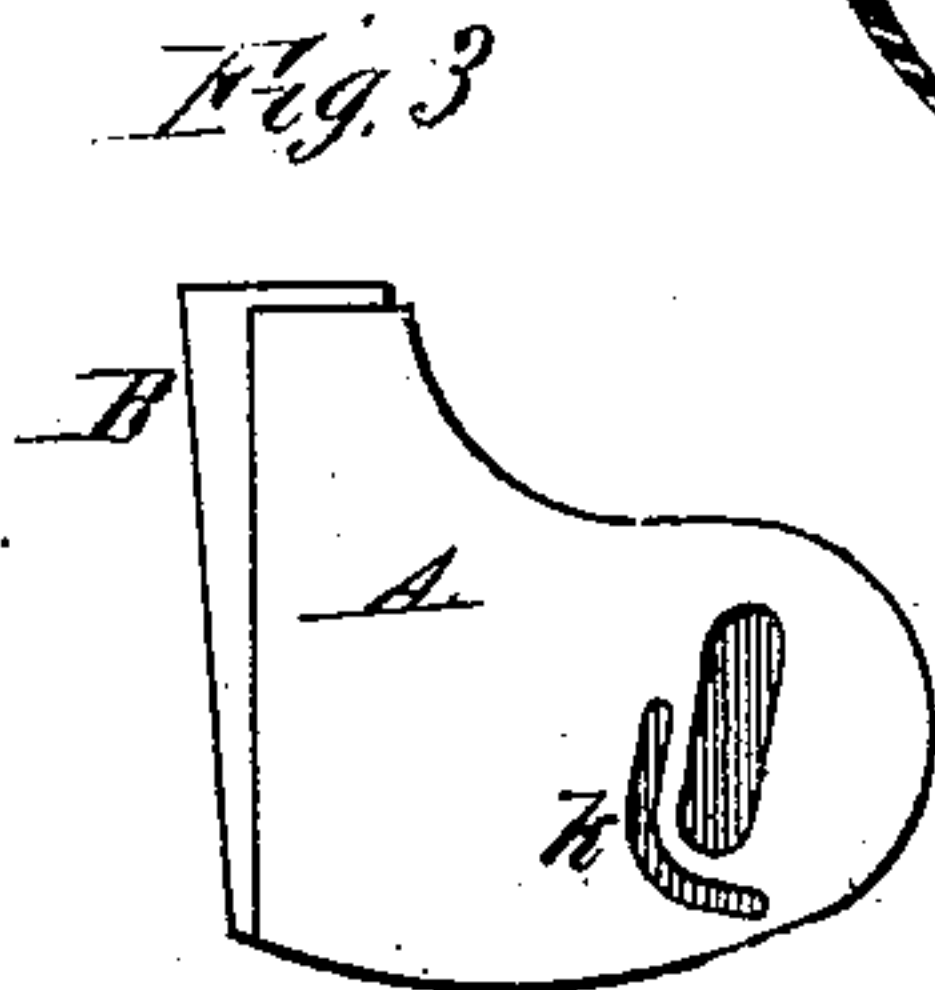
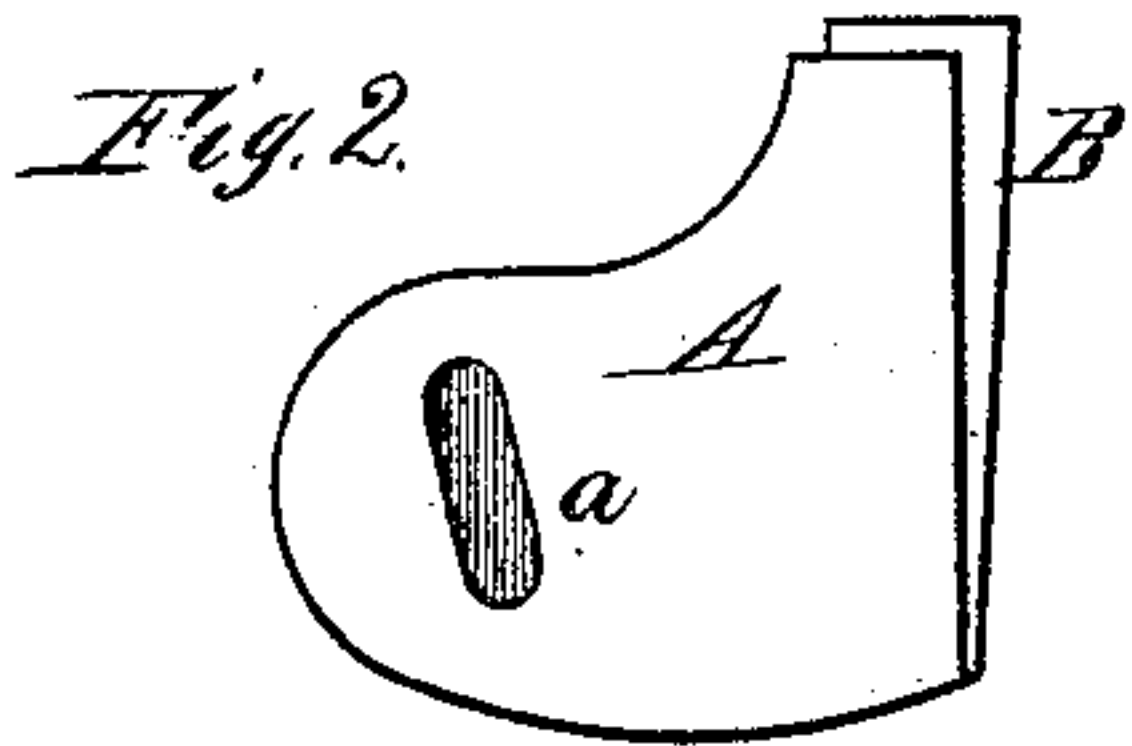
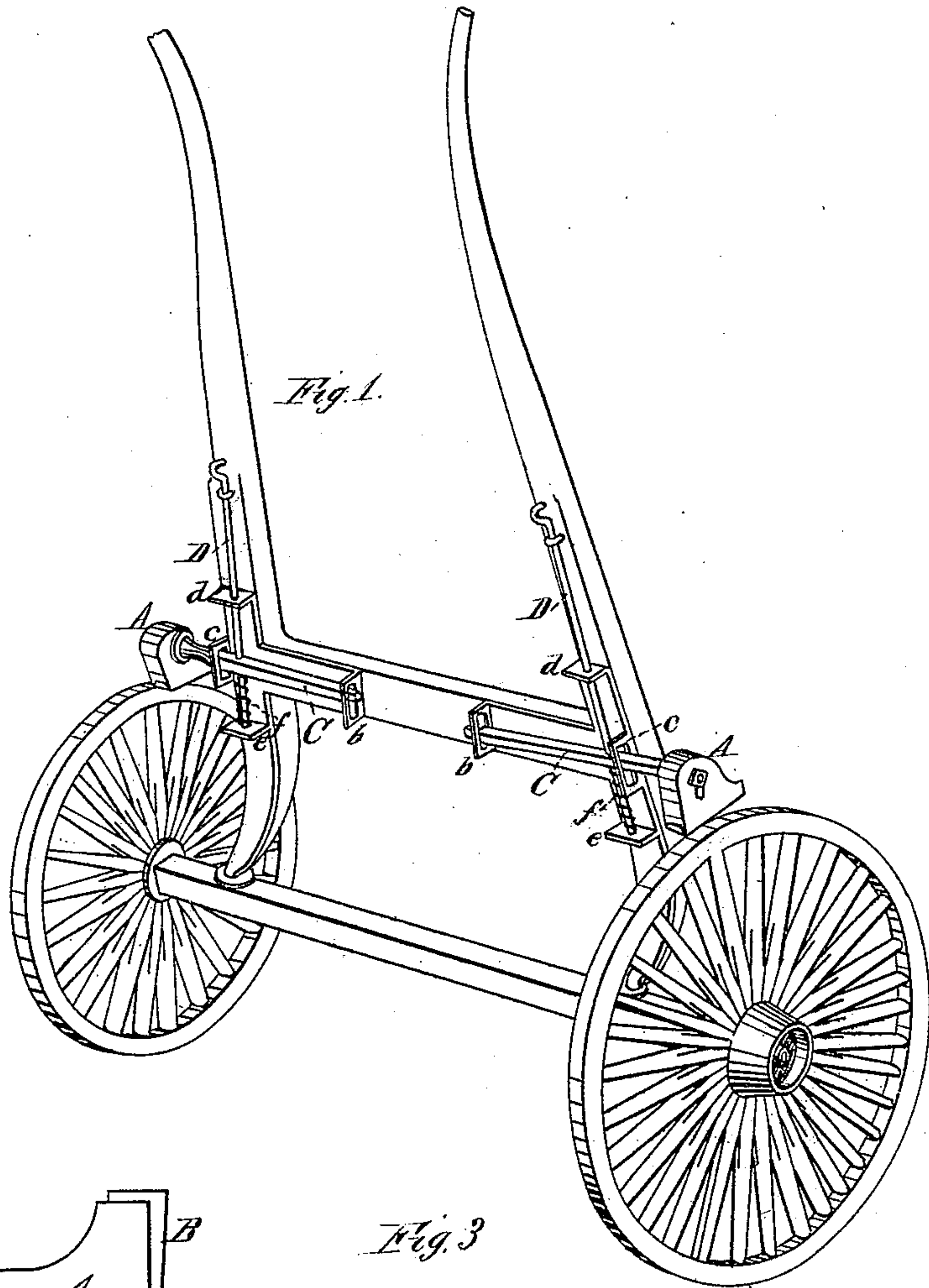


C. T. WARREN.
Brake for Vehicles.

No. 205,707.

Patented July 2, 1878.



Attest:
Chas. H. Searle
A. P. Lowe

Charles T. Warren,
Inventor:
By North Osgood
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES T. WARREN, OF ATLANTA, GEORGIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE W. LEONARD, OF SAME PLACE.

IMPROVEMENT IN BRAKES FOR VEHICLES.

Specification forming part of Letters Patent No. **205,707**, dated July 2, 1878; application filed February 15, 1878.

To all whom it may concern:

Be it known that I, CHARLES TAYLOR WARREN, of Atlanta, county of Fulton, and State of Georgia, have invented certain new and useful Improvements in Brakes for Vehicles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a perspective view, showing the arrangement, location, and several connections of my improved brake when applied to an ordinary one-horse vehicle, the shafts being represented in an elevated position to facilitate illustration. Fig. 2 is a perspective view of the brake-block frame as it appears when the several connections are removed therefrom. Fig. 3 is an elevation of that side of the frame which faces the shaft, and Fig. 4 is a sectional view of the frame upon a plane at right angles to its axis. Fig. 5 is a horizontal section of the brake-block frame upon a plane passing through its axis.

Like letters in all the figures indicate corresponding parts.

The object of my invention is to produce a simple, cheap, and effective device which, when applied in connection with the wheels of a vehicle, will serve to arrest their motion in one direction, while it will not interfere with the reverse motion; and the invention consists in certain improved details of construction and assemblages of parts, as will be hereinafter first fully described, and then pointed out in the claims.

To illustrate the principles of the invention, I have represented the device as applied to an ordinary one-horse vehicle having a single pair of shafts; but I desire it understood that the improvements hereinafter specified are alike applicable to all manner of carriages and wagons and to cars, as well as other situations wherein it is desirable to arrest motion or retard it in wheels of any character.

The frame A, which carries the brake-block B, is preferably cast hollow, and is mounted upon a shaft, C, in such a manner as to permit its partial rotation upon said shaft. The slot *a*, which receives the projecting end of

shaft C, is somewhat elongated to allow the frame a vertical play as well as a partially-rotating motion; and it will be observed that this slot is inclined toward the plane of the brake block or shoe which bears against the wheel. The inclination of the slot permits the frame to ride upwardly on its axis whenever the wheel of the vehicle is reversed, and thus the brake is easily and quickly revolved to a position where it will not retard the reverse motion of said wheel, and, the brake being applied, the inclination serves to cause the block to be crowded more and more against the wheel as the brake-power is increased.

The axis or shaft C is guided in two slotted plates, *b* and *c*, suitably connected with the shafts or other portion of the vehicle, so that when the brake is applied it shall move toward or from its seat in a practically straight line, and not in the arc of a circle, as would be the case were shaft C pivoted at one end.

In the illustration chosen the brake is applied through the medium of the rod D running along under the shaft and conveniently arranged to be coupled with the ordinary hold-back-strap. This rod is also guided in properly-arranged plates *d* and *e*, and it is provided with a spring, *f*, serving to keep the brake out of contact with the wheel at all times when the strain is removed from the rod.

Within the box A is a spring, *g*, connected at one end to shaft C and at the other with the box, which spring operates to keep the frame always in proper position to be forced toward the wheel.

The shaft C is provided with a guide, *h*, which enters a curved recess, *k*, in one of the side plates, and the frame is secured upon said shaft by a suitable shoulder, *l*, at one side and a nut or key, *m*, at the other.

The shoe or wearing-block B may be made of wood or any desirable material, and is confined in its proper position by reason of its being slightly wedge-shaped and so arranged that the harder the brake is applied the closer will the block be forced to its seat. It may be easily removed, when necessary, to replace or repair it.

From this description of the nature and op-

eration of the device it will appear that whenever the carriage is moving forward and the brake applied to the wheels resistance to their motion is in direct proportion to the braking power; and whenever it becomes necessary to back the vehicle, although the brake is forced toward the wheel, the reverse motion of said wheel causes the brake-frame to rise up and partially revolve upon its axis, offering no resistance to the motion desired. This feature is especially advantageous in one-horse vehicles, bringing the brake under control at the same instant that the horse is held back or backed, and without requiring attention of the driver. The principles may be applied to vehicles using a pole, only necessitating such changes as will adapt both brake-blocks to be operated by one rod; and they may be similarly applied to car and other wheels by making the necessary and obviously simple changes in the means of applying the brake-power.

The material of the box and all attachments may be such as is deemed most expedient; and in place of the metallic springs shown I desire it particularly understood that I intend to substitute rubber, should I desire so to do.

In acknowledgment of the state of the art, I will add that I am fully aware of previously-existing brakes wherein the reverse motion of

the wheel has been provided for—as, for example, in my Patent No. 186,776. It is not desired to cover herein anything shown in said patent; but

What is now claimed as new, and desired to be secured by Letters Patent, is—

1. In combination with a brake-block frame, which supports the brake-block, a shaft carrying the same and provided with a guide, *h*, which enters a corresponding slot cut in one of the face-plates, substantially as and for the purposes set forth.

2. The combination, as before set forth, of rod *D*, guides *d* and *e*, shaft *C*, guides *b* *c*, and spring *f*, the whole being connected with a brake-block, and the shaft *C* being capable of a rectilinear motion, substantially as shown and described.

3. The brake-block frame *A*, provided with slots *a* and *k* and interior spring *g*, the whole combined with an adjusting-shaft, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

CHARLES T. WARREN.

Witnesses:

W. R. D. THOMPSON,

W. M. BUTT, J. P.