

R. HURD.  
Wagon Brake.

No. 102,009.

Patented April 19, 1870.

Fig. 1.

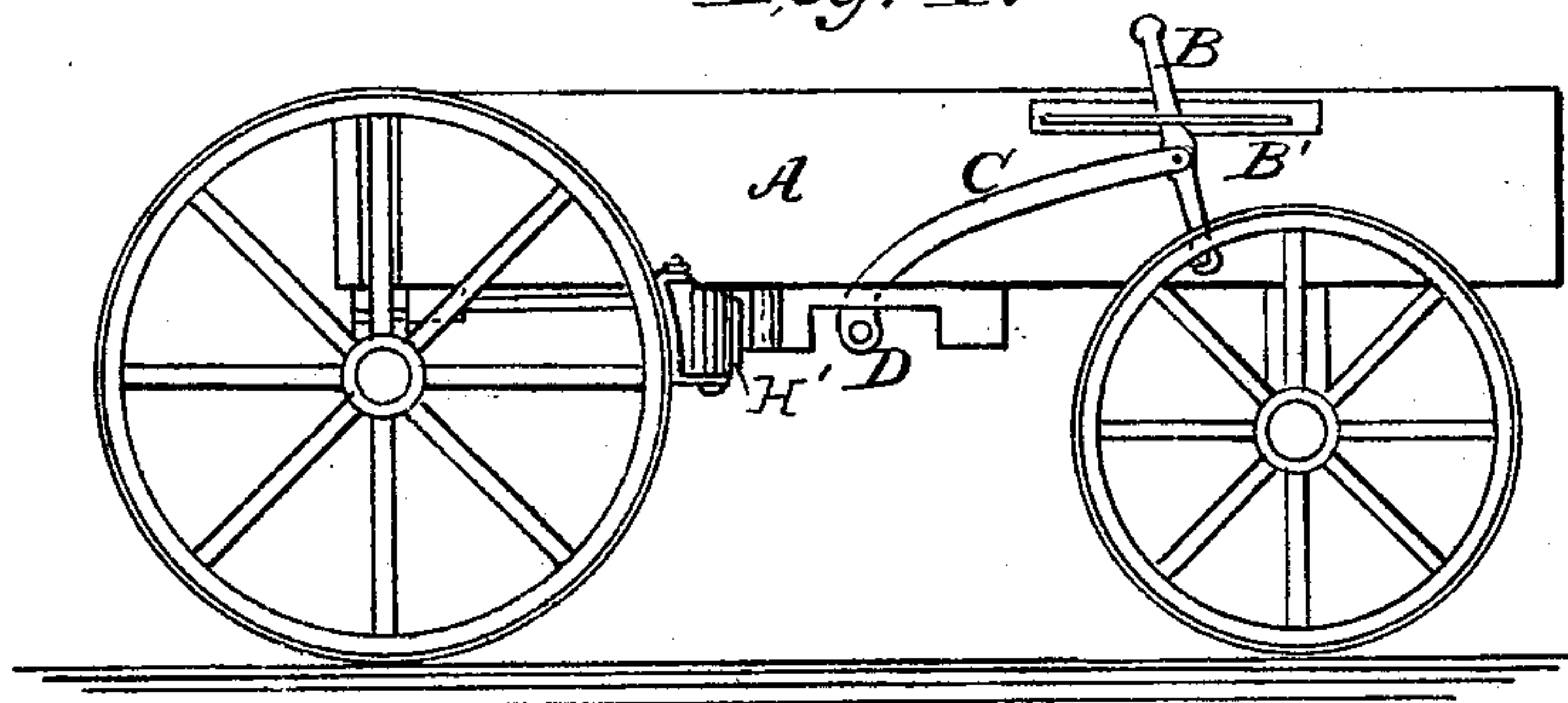


Fig. 2.

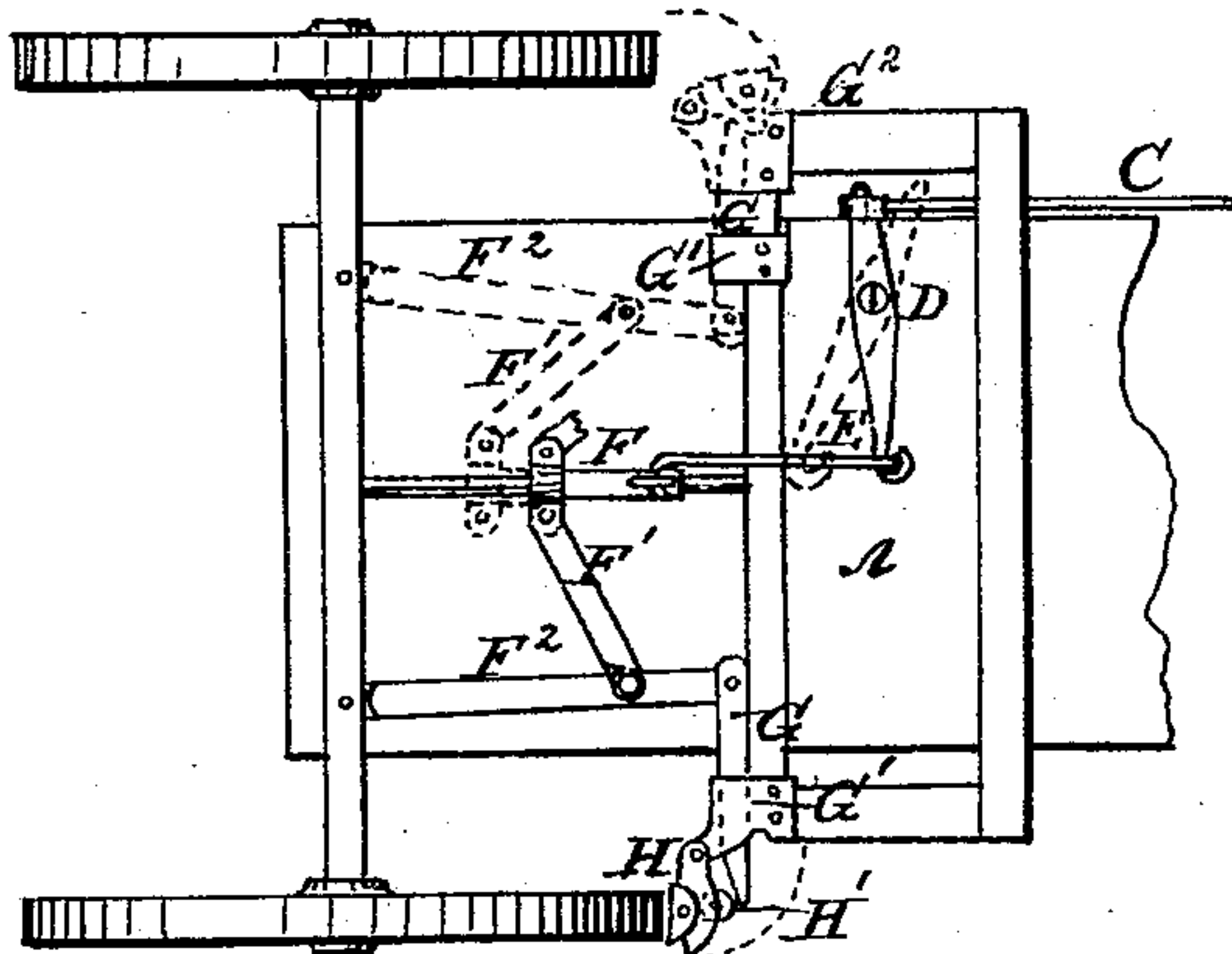


Fig. 3.

Fig. 4.

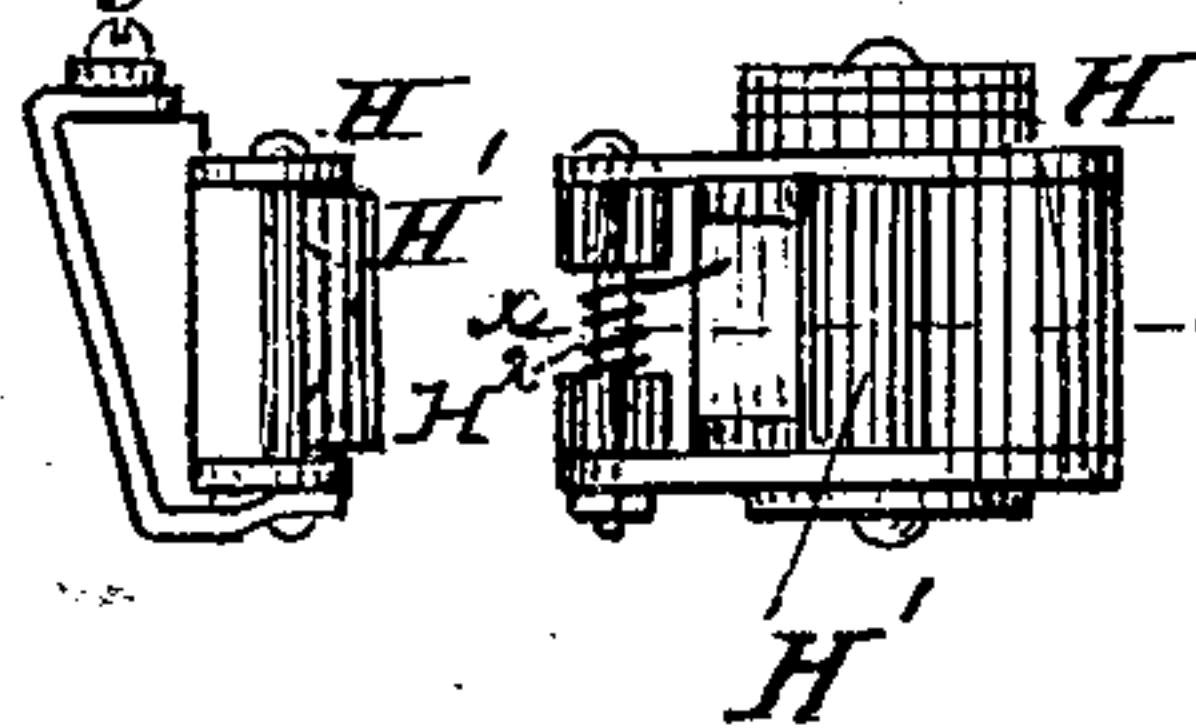
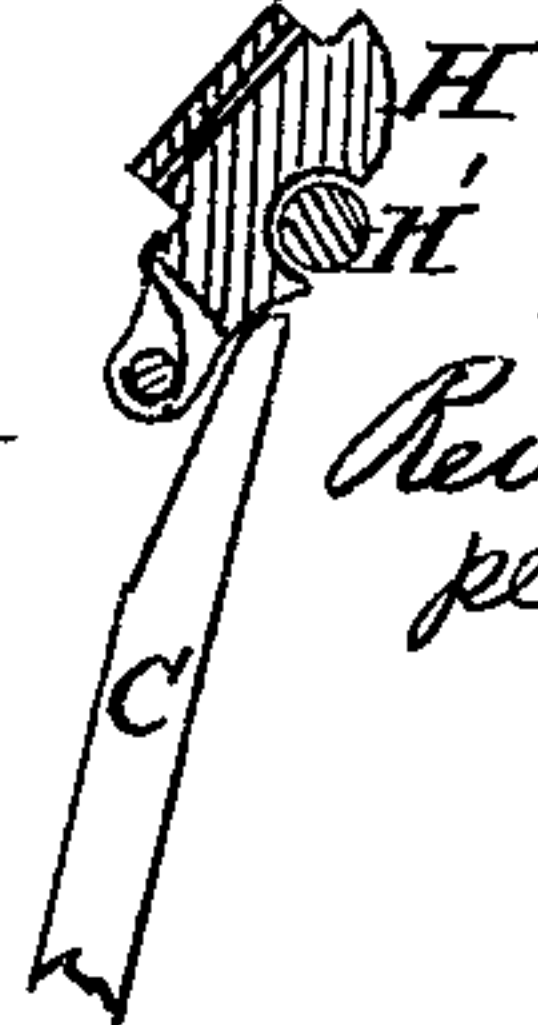


Fig. 5.



Attest.  
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# United States Patent Office.

REUBEN HURD, OF MORRISON, ILLINOIS.

Letters Patent No. 102,009, dated April 19, 1870.

## IMPROVEMENT IN WAGON-BRAKES

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that I, REUBEN HURD, of Morrison, in the county of Whiteside and State of Illinois, have invented an Improvement in Wagon-Brakes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

### Drawings.

Figure 1 is a side elevation of a portion of a wagon having my improvement attached thereto;

Figure 2 is a plan view, showing the arrangement of the parts and the manner of applying the brake-blocks to the wheels;

Figure 3 is a side view of the brake-block;

Figure 4 is a front of the same; and

Figure 5 is a sectional elevation on line X X of fig. 4.

Similar letters of reference designate identical parts in both figures.

This invention relates to wagon-brakes; and

It consists in the construction of the brake-block and in the means for applying the same to the wheels; and, further, in the combination and arrangement of devices for operating such brake, as will be more fully set forth hereinafter.

To enable others skilled in the art to construct and use the same, I will proceed to describe its construction and operation.

A in the drawings refers to the body of a wagon, which may be of any style desired.

B refers to a lever, which is pivoted to the side of the body or to any convenient point, it being for the purpose of operating the brake, and being supplied with the usual serrated bar or rack, B', for keeping the lever in any desired position.

C refers to a connecting-rod, which extends from lever B to and connects with a lever placed upon the under side of the wagon bottom.

D refers to the lever above alluded to, it being pivoted as shown in fig. 2, its inner end extending inward to or about to the center of the wagon-body.

E refers to a link, which connects the lever D to a sleeve which slides upon a rod extending from the rear axle to the cross-bar to which the brake-blocks are attached.

F refers to a sleeve, which is made to fit and move upon the roll above alluded to, its rear end being provided with slotted projections, and its front end with a single one, to which to attach the connecting-link E.

F' F' refer to links, the inner ends of which enter the slots in sleeve F, to which they are pivoted. From this point they extend outward at a consid-

erable angle to and connect with levers F<sup>2</sup> F<sup>2</sup>, the rear ends of which are pivoted to the rear axle, while their front ends are pivoted to wedges which slide in guides attached to the cross-beam which supports the brake-blocks.

G G refer to the wedges alluded to, their inner ends being slotted to receive the ends of levers F<sup>2</sup> F<sup>2</sup>, by which they are operated.

H refers to a brake-block, of which there are two, one for each hind or rear wheel of the vehicle.

The form of this block is clearly shown in figs. 3, 4, and 5 of the drawings, the beveled portion thereof, which is designed to come in contact with the wheel, being covered with leather, wood, or any other suitable material.

Upon the rear side of that portion of the block just described there is a projection, which has, in a recess formed therein, an anti-friction roller, H, that portion which is inside of such recess serving as an abutment for the end of the wedge to come in contact with, as shown in fig. 5.

From the upper and lower surfaces of this projection ears project, through which pass bolts which attach the block to the guide G, as shown in fig. 2.

H<sup>1</sup> refers to the roller, which is arranged vertically within a recess in the outer surface of the brake-block, and so that when the block is in contact with the wheel, as shown in full lines in fig. 2, the wedge G shall come in contact with such roller, and thus relieve the friction consequent upon forcing the wedge against the brake-block.

H<sup>2</sup> refers to a spring which is coiled around the bolt, which secures the block to the cross-bars, and so arranged that, as the block is pressed against the wheel, the tension of the spring is increased, and when the wedge is withdrawn the block will be thrown back into the position shown in dotted lines in fig. 2.

The operation of this device is as follows:

The parts having been constructed and arranged as shown, the driver or operator presses upon the upper end of the lever B, carrying it forward, its motion being communicated to the sleeve F, carrying it forward upon the rod on which it slides, and then carrying outward the forward ends of levers F<sup>2</sup> F<sup>2</sup>, and with them the wedges G G, the result being the pressing of the brake-blocks upon the wheels with great force, consequent upon the leverage afforded by the toggle-like joint caused by the arrangement of the links F<sup>1</sup> F<sup>1</sup> and levers F<sup>2</sup> F<sup>2</sup>.

Having thus described my invention,

What I claim and desire to secure by Letters Patent, is—

1. The method herein described of applying brake-blocks to the wheels of vehicles, the means employed



being a toggle-joint acting upon a wedge, substantially as and for the purpose set forth.

2. The construction of the brake-block H, substantially as and for the purpose set forth.

3. The combination of the brake-block H, the wedge G, levers  $F^2$ , links  $F^1$ , sleeve F, and the rod upon which said sleeve slides, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name to this specification this 12th day of March, 1870, at the city of Washington, in the District of Columbia, in the presence of two attesting witnesses.

REUBEN HURD.

Witnesses:

JOSEPH R. EDSON,  
C. F. CLAUSEN.