

(No Model.)

2 Sheets—Sheet 1.

D. E. BOWLING & F. O. BARNES.
VEHICLE BRAKE.

No. 382,586.

Patented May 8, 1888.

Fig. 1.

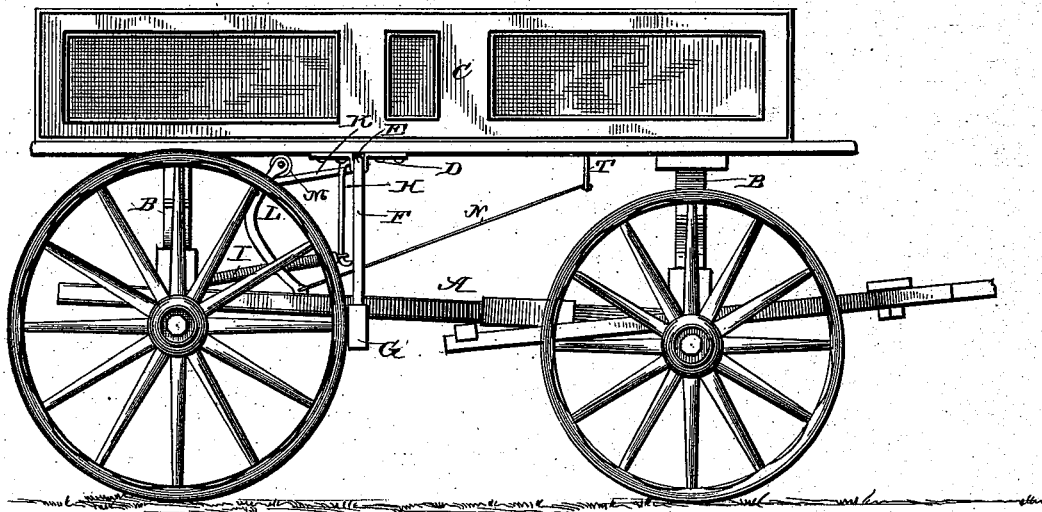
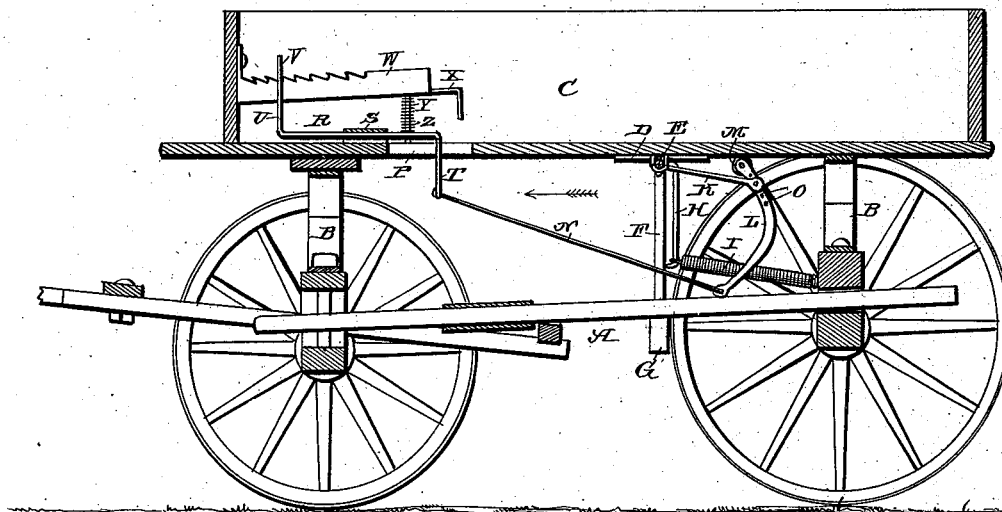


Fig. 2.



Witnesses.

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(No Model.)

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Fig. 3.

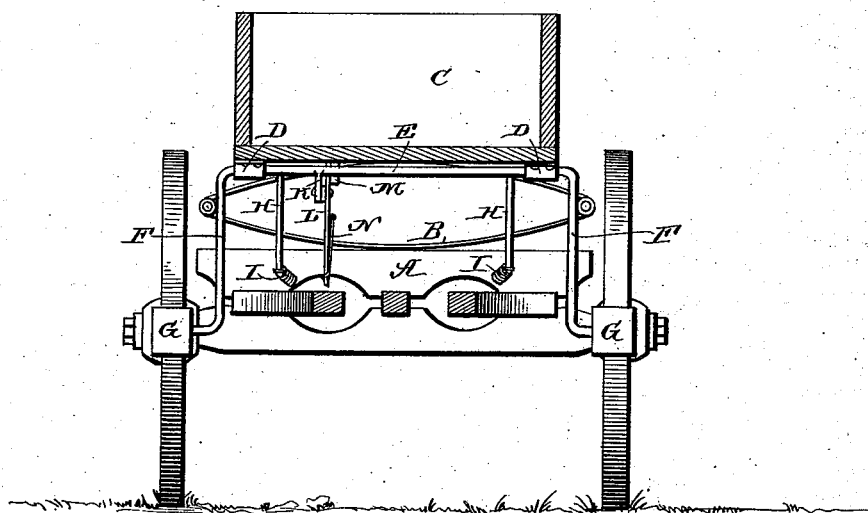
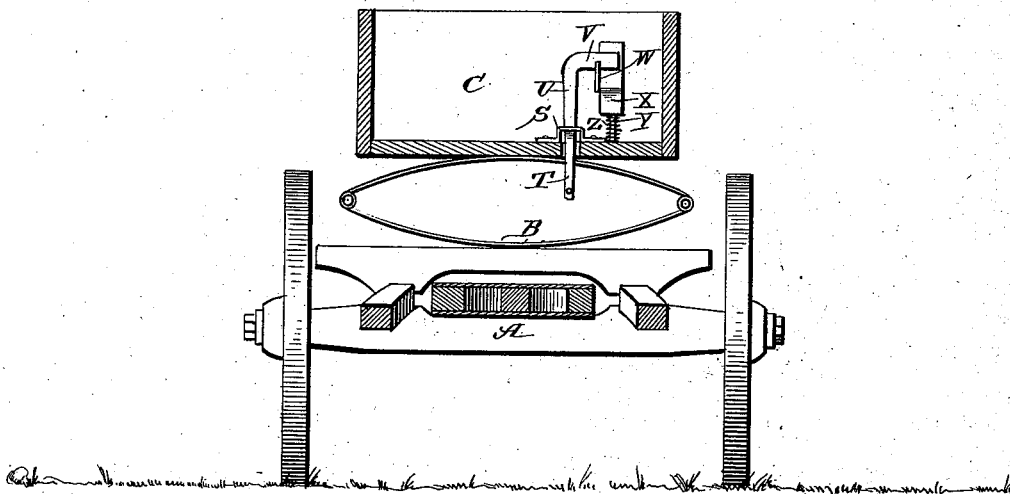


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

DONALD E. BOWLING, OF LYNCHBURG, AND FRANK O. BARNES, OF ALLEGHANY SPRINGS, VIRGINIA.

VEHICLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 382,586, dated May 8, 1888.

Application filed June 30, 1887. Serial No. 243,009. (No model.)

To all whom it may concern:

Be it known that we, DONALD E. BOWLING and FRANK O. BARNES, citizens of the United States, residing, respectively, at Lynchburg and Alleghany Springs, in the counties of Campbell and Montgomery and State of Virginia, have invented a new and useful Improvement in Vehicle-Brakes, of which the following is a specification.

Our invention relates to an improvement in vehicle-brakes; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a vehicle provided with a brake embodying our improvements. Fig. 2 is a vertical longitudinal central sectional view of the same. Fig. 3 is a vertical transverse sectional view of the same, looking in the direction indicated by the arrow in Fig. 2. Fig. 4 is a similar view looking in the opposite direction.

A represents the running-gear of a vehicle.

B represents the springs, and C represents the body of the vehicle. On the under side of the body, at opposite sides thereof, and at a suitable distance from its rear end, are bearings D, in which is journaled a rock-shaft, E. The ends of the rock-shaft are turned downward and form arms F, and the lower ends of the said arms are bent outward to form spindles G, on which are pivoted brake-blocks G'.

H represents lever-arms which depend from the rock-shaft, and I represents coiled retractile springs, which have their rear ends attached to the rear bolster, or some other suitable part of the running-gear, and have their front ends attached to the lower ends of the levers H. These springs normally draw rearwardly on the levers H, and thereby turn the rock-shaft so that the brake-blocks are caused to bear against the peripheries of the rear wheels.

Near the center of the rock-shaft is a rearward-projecting arm, K, to the rear end of which is fulcrumed a curved lever, L. The short upper arm of this lever is provided with an anti-friction roller, M, which bears against the bottom of the body, and to the long lower arm of the said lever is attached a rod, N. The

lever L is provided with a series of openings, O, whereby it may be shifted on its fulcrum, and thus caused to exert any desired leverage, as will be readily understood.

In the bottom of the body, near the front end thereof, is a longitudinal slot, P.

R represents a slide, which is arranged on the bottom of the body, and is guided and secured in position by a keeper, S. The rear end of the said slide is bent downward and extends through the slot P, and forms an arm, T, to which the front end of the rod N is connected, and the front end of the said slide is bent upward to form a vertical arm, U, having the horizontal lateral offset V projecting from one side.

W represents a ratchet-bar having teeth on its upper edge. The front end of the said ratchet-bar is pivotally connected to the front end of the body, and the rear end of the ratchet-bar is provided with a pedal, X.

Y represents a vertical rod which projects upward from the bottom of the body and extends through an opening made in the ratchet-bar. A coiled extensile spring, Z, is placed on the said rod and bears upwardly against the ratchet-bar, thereby keeping the latter normally in engagement with the offset or shoulder V, as shown in Fig. 4.

The operation of our invention is as follows: While the vehicle is moving on a level road or up a hill the slide R is moved forward, so as to cause its offset V to engage one of the teeth near the front end of the ratchet-bar, and thereby cause the lever L and the arm K to turn the rock-shaft against the tension of the springs, and thereby prevent the brake-blocks from bearing against the wheels. On going down a hill the driver places one foot on the pedal X, thereby depressing the ratchet-bar against the tension of the spring Z, thus forcing the ratchet-bar to disengage the offset V and release the slide, and the springs I thereupon instantly turn the rock-shaft in the contrary direction, move the slide R rearward, and cause the arms F to apply the brakes G' to the wheels.

Having thus described our invention, we claim—

1. The combination of the depending arms

F, mounted upon a rock-shaft and carrying the brake shoes or blocks at their lower ends, the springs to normally press the brake shoes against the wheels, and the lever-connection to move the brake-shoes from the wheels against the tension of the springs, substantially as described.

2. The combination of the depending arms F, mounted upon a rock-shaft and carrying the brake shoes or blocks upon their lower ends, the springs to normally press the brake-shoes against the wheels, the lever in connection with the said brakes to move the same from the wheels, and the detent W, engaging the said lever to lock the same, as set forth, substantially as described.

3. The combination of the rock-shaft having the arms F, the brake-block attached to the said arms, the springs to normally press the brake-blocks against the wheels, the lever connected to the rock-shaft to turn the same, and thereby move the brake-blocks from the wheels, the slide connected to the said lever, and the ratchet bar or detent engaging the said slide, for the purpose set forth, substantially as described.

4. The combination of the rock-shaft having the arms F, the brake-blocks secured to the said arms, the springs to normally apply the brake-blocks to the wheels, the arm K, projecting rearward from the rock-shaft, the lever L, fulcrumed to the said arm and having the anti-friction roller at its short end to bear against the bottom of the vehicle-body, the lon-

gitudinally-movable slide connected to the long arm of the lever, and means, substantially as set forth, to engage the slide, substantially as described.

5. The combination, with the rock shaft, of the arms F, the brake blocks or shoes connected to the same, the springs to normally hold the brake-blocks against the wheels, the lever L, having a roller, M, the link K, and the connections to operate the lever L, substantially as described.

6. The combination of the rock-shaft E, the two depending arms F, secured thereto and carrying brake blocks or shoes at their lower ends, the levers H, connected to the rock-shaft, the springs I, connected to the lower ends of the levers H and to the wagon-frame, the lever L, having a frictional roller, M, at its upper end, the link K, adjustably connected to the lever L at one end and to the rock-shaft at the other, the rod N, the lever T, and the detent W, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

DONALD E. BOWLING.

FRANK O. BARNES.

Witnesses as to signature of Donald E. Bowling:

JOHN H. LEWIS,

H. F. BOCK.

Witnesses as to signature of Frank O. Barnes:

JOSEPH S. CAMPBELL,

ARCHIE H. WELLS.