J. H. REED.

Vehicle Brake.

No. 232,546. Patented Sept. 21, 1880.

Fig. 1

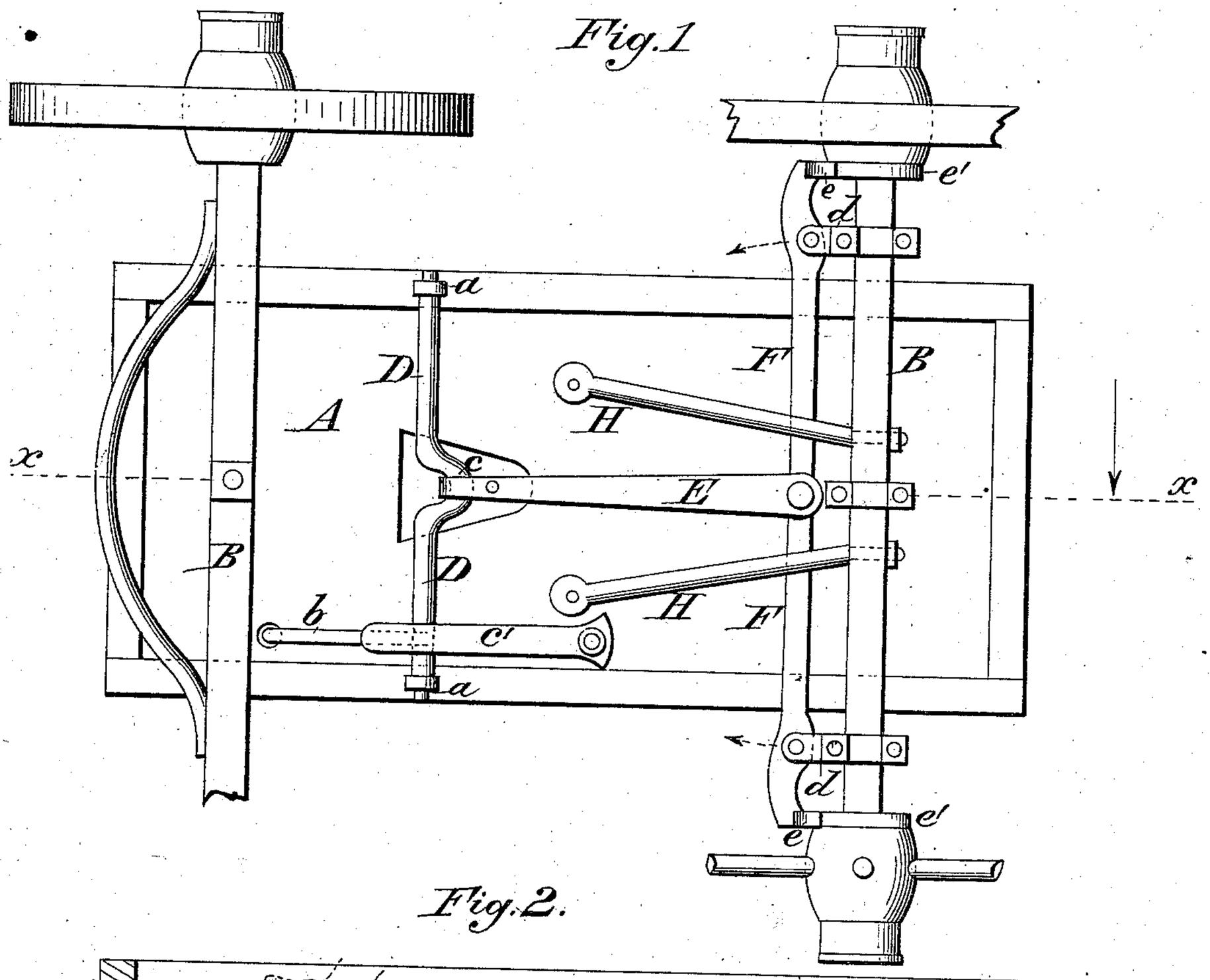
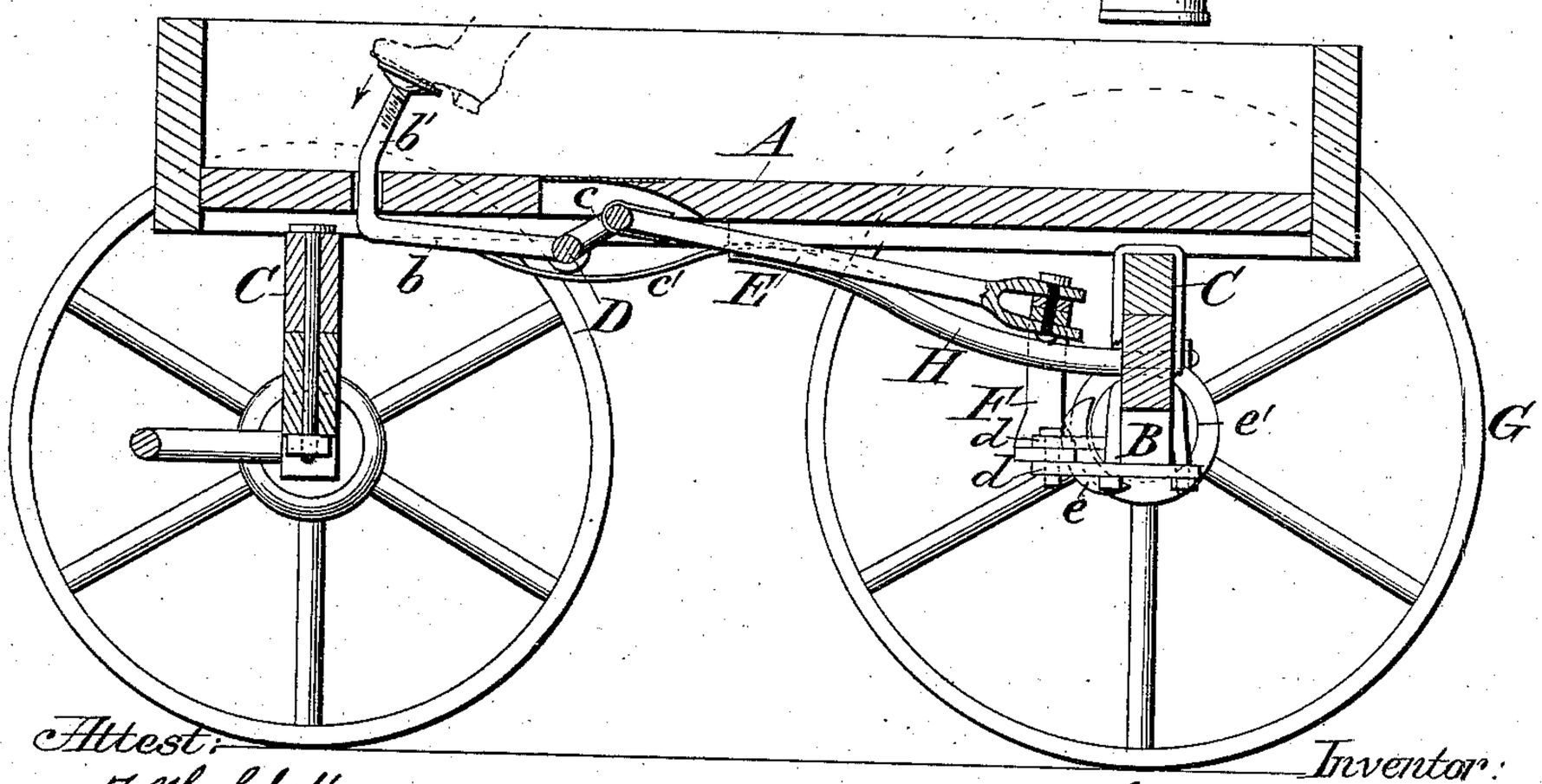


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN H. REED, OF SHAMOKIN, PENNSYLVANIA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO I. N. MORGANROTH, OF SAME PLACE.

VEHICLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 232,546, dated September 21, 1880.

Application filed December 10, 1879.

To all whom it may concern:

Be it known that I, JOHN H. REED, of Shamokin, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Locks for Carriages; 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 of reference marked thereon, which form a part of this specification.

The object of this invention is to improve that class of vehicle-brakes used upon ordinary carriages. These brakes as heretofore constructed have generally applied the friction block or rubber directly to the periphery of the wheels. Such an application of the frictional surface is connected with many difficulties, as the blocks are quickly worn away by the grit which attaches itself to the tire, while in rainy weather or with wet roads the water acts as a lubricant between the brake and wheel, thus preventing its proper action. In order to avoid these difficulties I apply my brake directly to the hub of the wheel, which, by its position, is protected from the mud and dirt to a great extent, while the surface of the hub-band to which the brake-block is applied being used for no other purpose, they always conform to each other in shape, thus giving a full bearing-surface, while by the system of levers used for applying the brakes the driver is able to produce a very great pressure of the brake-block upon the hub, causing the rotation of the wheel to be retarded not only by the friction of the block, but also by the friction of the box upon the axle; and my invention consists in the construction and arrangement of the brake and its operating mechanism, as will be hereinafter fully set forth, and then specifically pointed out in the claim.

Figure 1 is a bottom plan of a vehicle provided with my improved braking apparatus. Fig. 2 is a vertical longitudinal section on the line *x x* of Fig. 1.

A represents the carriage body or box, constructed in any of the ordinary forms now in use. B are the carriage-axles, and C the beds or bolsters upon which the body A rests.

Attached to the under side of the body, and oscillating in the journal-boxes *a a*, is the rock-shaft D, which is provided with an arm, *b*, the extremity of which, *b'*, is bent upward, passing through the bottom of the body into its interior, where it is furnished with a foot-rest or step, upon which the driver of the vehicle places his foot when he desires to put the brake in operation.

A crank, *c*, is formed upon the rock-shaft D, near the middle of its length, to which is attached one end of the connecting-rod E, its opposite end being secured by pivotal joints to the inner ends of the brake-levers F. These brake-levers are bent downward and pivoted near their outer ends to the clips *d*, which are attached to the rear axle and form the fulcrum upon which the levers work.

Securely attached to the outer or short ends of the levers F are the brake-blocks *e e*, the frictional surfaces of which are curved to fit the hub-bands *e' e'* upon the rear wheels, G, of the vehicle.

In order to keep the brakes away from the wheels when not required, a spring, *c'*, is secured to the bottom of the vehicle, its free end bearing upon and sustaining the arm *b* of the rock-shaft D. It will be seen that this action of the spring through the intermediate connections carries the brake-blocks away from the hub-bands, thus allowing the wheels to revolve freely; but when it is desired to bring the brakes into action, the operator places his foot upon the step attached to the rock-shaft arm. This depresses it and partially rotates the arm, the crank of which draws upon the connection E and inner ends of the brake-levers, causing the brake-blocks attached to the outer ends of the levers to come into forcible contact with the hub-band, thus creating friction between them, and also between the hub and axle, by the great power with which the hub is forced backward by the brake-block.

In order to prevent rocking of the rear axle and consequent lost motion in the brake-connection, the braces H are secured to the axle or bolster at one end, while their opposite ends

are firmly attached to the wagon-body. These braces will not, of course, be needed in vehicles which are provided with a reach separate from the carriage-body.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

In a vehicle-brake the brake-blocks of which are applied directly to the wheel-hubs, the combination of the rock-shaft D, arm *b*, with vertical extension *b'*, spring *c'*, connections E, and brake-levers F, all constructed and arranged for joint operation as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of December, 1879.

JOHN H. REED.

Witnesses:

A. CALDWELL,

I. N. MORGANROTH.