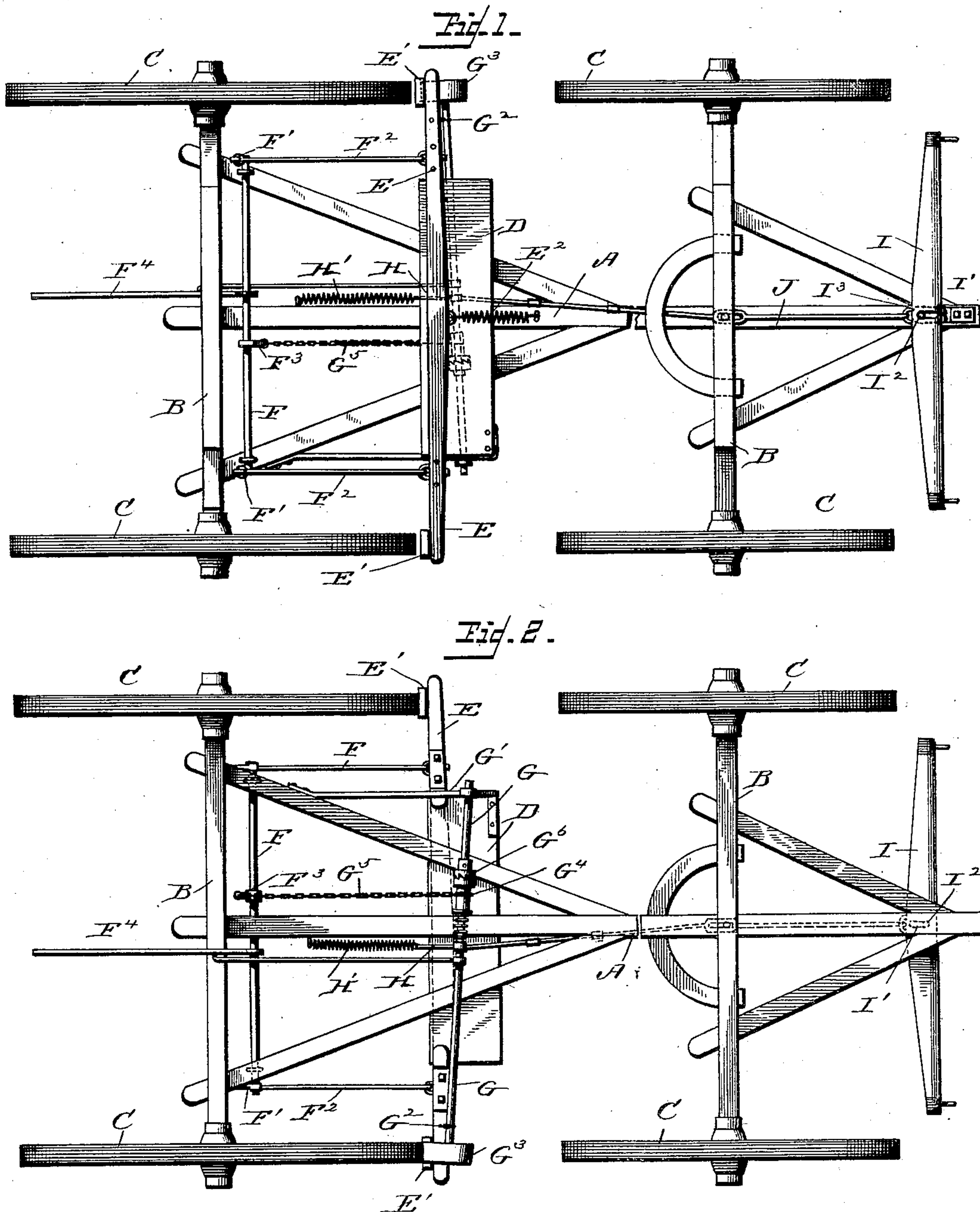


(No Model.)

J. MCGONEGAL.
WAGON BRAKE.

No. 435,512.

Patented Sept. 2, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN MCGONEGAL, OF SLIPPERY ROCK, PENNSYLVANIA.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 435,512, dated September 2, 1890.

Application filed May 15, 1890. Serial No. 351,875. (No model.)

To all whom it may concern:

Be it known that I, JOHN MCGONEGAL, a citizen of the United States, residing at Slippery Rock, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Automatic 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in automatic vehicle-brakes; and it has for its object to improve upon the construction and render more efficient in operation this class of vehicle attachments.

To these ends and to such others as the invention may pertain the same consists in the peculiar construction and in the novel combination, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating like parts throughout the several views, and in which—

Figure 1 is a top plan view of the running-gear of a wagon with my improvement attached. Fig. 2 is a bottom plan view of the same.

Reference now being had to the details of the drawings by letter, A designates the reach, B B the axles, and C C the wheels, of the wagon. To the upper face of the reach, at a point slightly in advance of the rear wheels, is secured a transverse board D, which I term the "sand-board," and extended longitudinally across the upper face of this board is placed the brake-timber E, carrying upon its ends the brake-shoes E', of ordinary construction, said shoes being adapted when in use to bear against the outer face of the rims of the rear wheels of the wagon. It will be

of course understood that the brake-timber and its attached parts may, if desired, be placed beneath instead of upon the upper side of the reach without departing from my invention. The brake-timber E is connected at its longitudinal center with the reach by a spiral spring E², one end of which spring is attached to the front edge of the timber, and its opposite end is attached to the upper face of the reach in advance of the sand-board, as shown.

F is a rock-shaft, which is journaled within suitable bearings at a point slightly in advance of the rear axle of the vehicle and parallel therewith. The ends F' of the shaft F are bent upwardly at right angles to the body of the shaft, and the free ends of the arms F⁸ are connected with the rear face of the brake-timber E by the links or rods F³. At a point substantially at its longitudinal center the shaft F has attached thereto a downwardly-extended short arm F³, the use of which will presently appear.

F⁴ is an arm attached to the shaft F. This arm extends downwardly and rearwardly and is adapted to brace against the surface of the ground and hold the wagon against back movement in going up hills. When the wagon is moving forward, this rod is raised by the rod attached to the shaft G.

G is a shaft, which is journaled within suitable bearings beneath the reach, one end of said shaft being journaled within the bracket G' at a point substantially beneath the front corner of the sand-board. From this point the shaft is extended to a point beneath the end of the brake-timber upon the opposite side of the vehicle, and is connected with the lower face of the said timber by means of a flexible link G², while the extreme outer end of the shaft is provided with a friction-wheel G³. At a point near its longitudinal center the shaft G is provided with a drum or collar G⁴, which is connected with the arm F³ by means of a chain or cable G⁵. A ratchet-clutch G⁶ upon the end of the drum serves to lock the shaft against reverse movement when the wagon is moved backward, as will be readily understood. At a point between the drum G⁴ and the pulley or wheel G³ the shaft G is connected with the rear portion of the

wagon-frame by means of the link H, which link is provided with a heavy spiral spring H'.

The doubletree I is provided at its longitudinal center with a transverse slot I', through
 5 which the doubletree-bolt I² passes, and upon the rear edge of the doubletree a loop or eye I³ is provided, within which is secured one end of the link J, the opposite end of said link or rod being connected with the shaft G, as shown.
 10 The rod J is made in two parts, which are made adjustable, as shown, so as to adapt the rod for use with reaches of different lengths.
 The operation of the device is simple. When power is applied to the doubletree in
 15 moving the wagon forward, the doubletree-bolt will occupy the extreme rear end of the slot I', and the shaft G will be drawn forward a sufficient distance against the tension of the spring H' to move the wheel G² out of con-
 20 tact with the vehicle-wheel. When an incline is reached and it is necessary that the brakes should be applied, the relaxation of power applied to the doubletree enables the spring H' to draw the free end of the rod G rearwardly,
 25 thus causing the wheel G³, carried upon its end, to contact with the vehicle-wheel. The rotation of the shaft G to which the wheel is attached will serve to wind upon the chain G⁵, thus pulling forward the lower end of the
 30 arm F³ and throwing the arms F' backward, drawing the brake-timber back, so as to bring the shoes carried thereby into contact with the vehicle-wheels. When power is again ap-
 35 plied to the doubletree, the friction-wheel G³ will be thrown out of contact with the wheel

of the vehicle and the brake-timber will be drawn back to its normal position by the tension of the spring E², as will be readily understood.

What I claim as new is—

The combination, with the reach, axle, wheels, and sand-board D, secured to the reach in advance of the rear wheels, of the brake-timber E, extended across the sand-
 40 board, the spring E², connecting the brake-timber with the reach forward of said sand-
 45 board, the rock-shaft F, journaled in bearings on the hounds in advance of the rear axle and having its ends bent upward at right angles to the length of the shaft, the links F², con-
 50 necting the bent ends with the rear face of the brake-timber, the downwardly-extended short arm F³ at the center of the rock-shaft G, journaled at one end in a bracket on the
 55 front corner of the sand-board, the friction-wheel carried by the other end of said shaft, the chain G⁵, connecting said shaft with the arm F³ on the rock-shaft, a clutch and drum on the shaft G, the link H, spiral spring H', the slotted doubletree, the doubletree-bolt,
 60 the loop I³, and the link J, all combined, arranged, and operating substantially as and for the purpose specified.

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

JOHN MCGONEGAL.

Witnesses:

A. N. CHRISTY,
 G. M. CAMPBELL.