

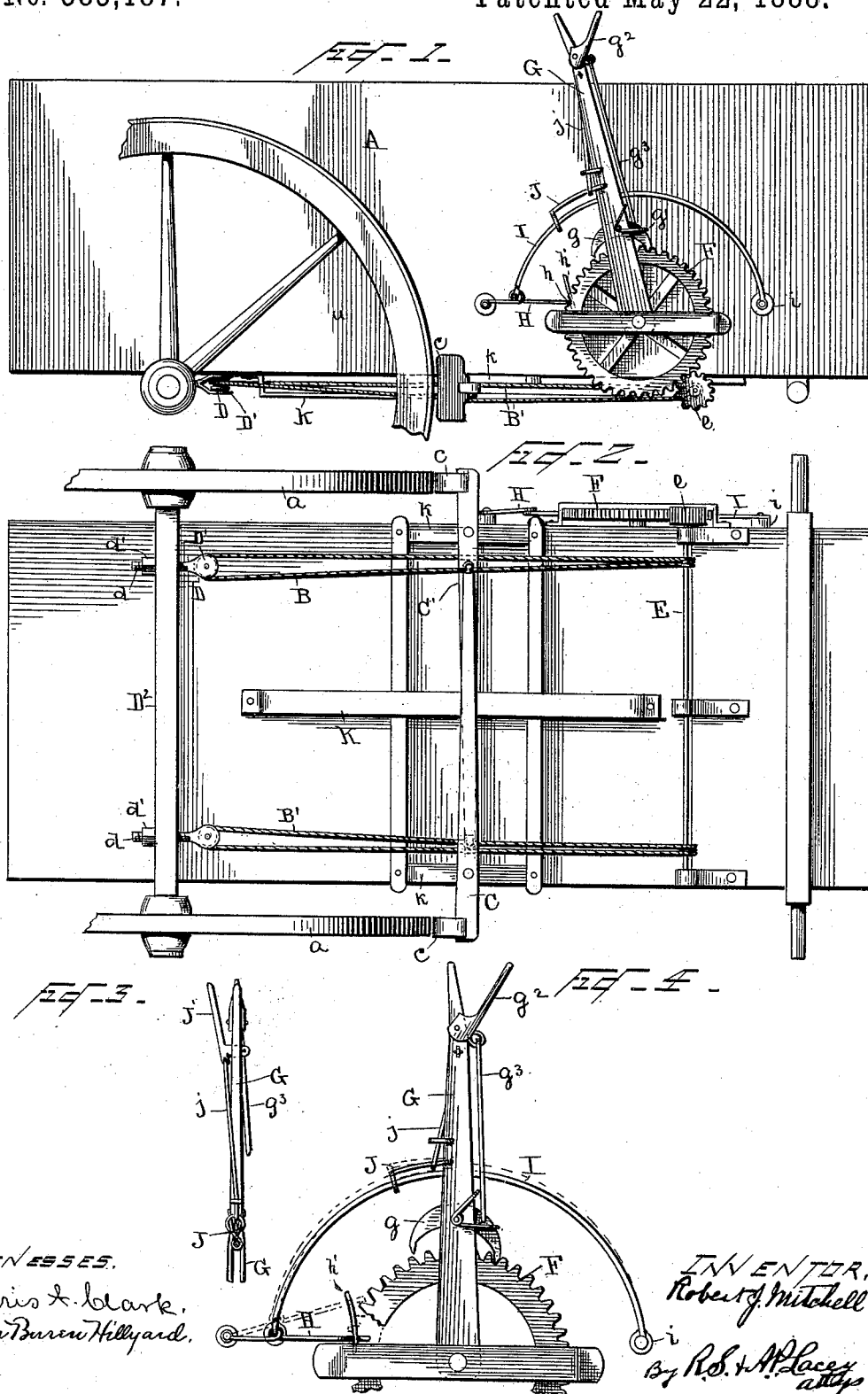
(No Model.)

R. J. MITCHELL.

WAGON BRAKE.

No. 383,187.

Patented May 22, 1888.



N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ROBERT J. MITCHELL, OF SENECA, MISSOURI.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 383,187, dated May 22, 1888.

Application filed March 14, 1888. Serial No. 267,165. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. MITCHELL, a citizen of the United States, residing at Seneca, in the county of Newton and State of Missouri, have invented certain new and useful Improvements in 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 and figures of reference marked thereon, which form a part of this specification.

This invention relates to vehicle-brakes, and has for its object to provide a simple and convenient mechanism for positively operating the brake-levers in either direction.

The improvement consists in having a shaft arranged transversely of the vehicle-body substantially parallel with the brake-levers, and having an endless chain or cable for each brake-lever, which passes over a pulley at one end and takes a few turns around the said shaft, which is rotated in any desired manner to move the endless chains and apply or release the brake-levers. To multiply the movement of the hand-lever that is provided to actuate brake-operating devices, a gear-wheel is provided, which meshes with a pinion keyed to the said shaft. The pawl for preventing retrograde movement of the gear-wheel is arranged to ride over the teeth of the said wheel in one direction and engage therewith and prevent any movement of the wheel in a reverse direction. A lifting-rod connected at one end with the pawl and curving and having the fulcrum of the hand-lever and the axis of the gear-wheel for its center is connected with a hand-latch on the hand-lever by suitable connections, so that by actuating the hand-latch the said pawl will be lifted out of engagement with the gear-wheel, which is then free to turn back.

The improvement further consists of the novel features which hereinafter will be more fully described and claimed, and shown in the annexed drawings, in which—

Figure 1 is a side view of a wagon provided with my improved brake; Fig. 2, a bottom plan of the wagon; Fig. 3, an edge view of the

upper portion of the hand-lever, showing the devices that connect the hand-latch with the pawl-lifting rod; Fig. 4, a side detail view of the gear-wheel, the hand-lever, the lifting-rod, and the pawl, showing the means for connecting the lifting-rod with the hand-latch and the click with the click-operating lever.

The vehicle-body A, of desired form and pattern, is provided with the brake-levers C and C', which are located beneath the bottom of the vehicle and extend transversely from one side to the other thereof, and are pivotally connected near their outer ends to the bottom of the vehicle, and are connected at their inner ends to the endless cables or chains B and B'. The brake-shoes c are adapted to bear against the wheels a.

The endless cables or chains B and B' are supported at one end on pulleys D, and at their other ends on the shaft E, around which they take a few turns. The pulley-frames D' have each a threaded stem, d, which extends through the cross-bar D², and is provided with the nut d' for taking up any slack in the endless cables.

The shaft E is journaled at or near each end and intermediate of its ends, and is preferably angular to obtain a positive grip on the endless cables or chains and prevent their slipping when the shaft is rotated. The pinion e, keyed to the end of the shaft E, meshes with the gear-wheel F, that is journaled to the side of the vehicle-body.

The hand-lever G is mounted on the axis of the gear-wheel, and is provided with the click g, which is double-ended, and is adapted to engage with the gear-wheel in either direction. The spring g' holds the click in engagement with the gear-wheel, and the click is connected with the hand-latch g² by the rod or wire g³.

The pawl H, that holds the gear-wheel from retrograde movement, has its front end, h, extended and guided in its movements by the keeper h'. The lifting-rod I, connected at one end with the pawl H and supported at its other end on the stud i, curves from end to end, the center of the curve being concentric with the axis of the gear-wheel and the pivotal support of the hand-lever G. The lifting-arm J, pivoted at its inner end to the hand-lever and

having its outer end engaging with the lifting-rod, is connected with the latch-lever *J'* by means of the rod or wire *j*. By pressing the latch-lever *J'* in toward the hand-lever the lifting-rod will be elevated and raise the pawl *H* and disengage it from the gear-wheel, which is free to be turned back to release the brakes. The lifting-rod is preferably elastic, and is fixedly connected with the body of the vehicle, to exert a positive force to hold the pawl *H* in engagement with the gear-wheel. The inner ends of the brake-levers overlap, and are held free of each other by the keeper-plate *K*, and are provided with the wear-plates *k* opposite the keeper *K*, to prevent them from being worn away by rubbing against said keeper.

When the shaft is rotated in one direction, to the left, the brakes are applied, and when rotated in a reverse direction, to the right, the brakes are released. This operation will be readily understood when it is remembered that the inner ends of the brake-levers are connected with one side of the endless cables, and that the endless cables are set in motion by the movement of the said shaft.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a wagon-brake, the combination, with the two brake-levers *C* and *C'*, arranged transversely of the vehicle and pivoted near their outer ends, and the two endless cables or chains connected with the brake-levers, respectively, of the pulleys for supporting the said chains at one end, and the rotatable shaft for supporting the chains at their opposite ends and moving them simultaneously for operating both of the brake levers, substantially as described.

2. The combination, with the two brake-levers and the endless chains or cables, of the rotatable shaft for supporting the chains at one

end and imparting motion thereto, and the independent pulleys for supporting the said chains at their other ends and adjustably connected with the vehicle, substantially as described, for the purpose specified.

3. The combination, with the gear-wheel, the hand-lever having a click, and the pawl, of the lifting-rod, and means for connecting the lifting-rod with the hand-lever, substantially as described.

4. The combination, with the gear-wheel, the hand-lever having a click, and the pawl, of the curved lifting-rod concentric with the axis of the gear-wheel, the hand-latch, and the connection between the lifting-rod and the hand-latch, substantially as specified.

5. The combination, with the gear-wheel, the hand-lever having a click, and the pawl, of the elastic curved lifting-rod connected at one end with the pawl and rigidly connected at its other end with the vehicle-body, of the lifting-arm, the hand-latch, and the rod connecting the hand-latch with the lifting-arm, substantially as specified.

6. The combination, with the vehicle-body, the brake-levers arranged transversely of the body and pivotally supported near their outer ends, the endless cables or chains, the adjustable pulleys, the shaft *E*, having an angular portion in cross-section, the pinion, the gear-wheel, the hand-lever having a double-ended click and a click-operating lever, the pawl having one end extended and guided in its movements by a keeper, the lifting-rod, the lifting-arm, and the hand-latch connected with the said pawl, substantially as set forth.

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

ROBERT J. MITCHELL.

Witnesses:

W. H. MITCHELL,
RICHARD HAYS.